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ABSTRACT

These proceedings contain 21 research reports and 56 position papers as well as capsule descriptions of 32 workshop forums, panel presentations, and group discussions that took place at the conference. The papers are organized into nine broad subject areas: (1) academic and research librarianship (recruitment, technology and change, faculty status, and support for faculty research); (2) administration (access to periodicals, financial support, cost analysis, computing centers and libraries, performance appraisals, evaluation, and networks); (3) automated services (cataloging, authority control, and user groups); (4) bibliographic instruction (information literacy, working with faculty, course integrated library instruction, program evaluation, teaching methods, and learning style); (5) collection development (budget allocation, cost effectiveness, evaluating journals, acquisition policies, collection assessment, weeding the collection, and special collections); (6) international papers (African imprints, an Australian "dime novel" publisher, Latin American acquisitions, and foreign language collections); (7) personnel (management competencies, creative staffing, classified staff, career progression, and financial compensation policies); (8) preservation/special collections (selection, disaster preparedness, special collections, and women's writing); and (9) readers' services (expert systems as user aids, interlibrary loan, ready reference searches, microcomputer software for end-user searching, and the search process). An author and subject index and a directory of contributors are included. (SD)

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BUILDING ON THE FIRST CENTURY

Proceedings of the Fifth National Conference of the Association of College and Research Libraries

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BUILDING ON THE FIRST CENTURY

Proceedings of the Fifth National Conference of the Association of College and Research Libraries
Cincinnati, Ohio, April 5-8, 1989

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CONTENTS

Authors viii
Reviewers of papers xiii
Moderators of sessions xiv
National Conference Executive Committee xv
ACRL Board of Directors xv
Preface xvii

I. ACADEMIC/RESEARCH LIBRARIANSHIP 1

ACADEMIC LIBRARIAN RECRUITMENT: EVALUATING PAST PRACTICES TO HELP SHAPE FUTURE PROCEDURES
Fred Batt 3

NEW PUBLICS FOR THE ACADEMIC LIBRARY: TECHNOLOGY AND CHANGE
Dennis R. Brunning, Helen B. Josephine, and Harvey M. Sager 6

IN THE SAME BOAT TOGETHER: CREATING AN ENVIRONMENT FOR RESEARCH AND PUBLICATION
John A. Camp, David G. Anderson, and Ann Page Mosby 9

FACULTY STATUS: LESSONS FROM THE PAST
Gemma DeVinney and Mary L. Reichel 12

FACULTY STATUS OR ACADEMIC STATUS: MUST WE CHOOSE?
Malcolm Germann, Michael Kelly, and Rebecca Schreiner-Robles 15

*"WHO ARE THOSE GUYS?" A REPORT ON A SURVEY OF REFEREES OF LIBRARY SCHOLARLY JOURNALS
Stuart Glogoff 19

THE ROLE OF PRACTISING LIBRARIANS IN LIBRARY EDUCATION
Gillian M. McCombs 30

FRIENDS AND FOES: ACADEMIC LIBRARIES FACE THE FUTURE
Anne F. Roberts 34

RESEARCH LIBRARIANSHIP: SERVICES AND SUPPORT FOR FACULTY RESEARCH IN THE 1980S
E. Paige Weston and Beverly P. Lynch 37

II. ADMINISTRATION 41

BACK TO THE FUTURE - CLOSING THE PERIODICAL STACKS
Tjalda Belastock 43

*ACADEMIC LIBRARIES: A MATTER OF SUPPORT
John M. Budd 46

HOLISTIC LIBRARIANSHIP: AS IT WORKS
Barton M. Clark and Karen Havill Bingham 51

COST ANALYSIS OF LIBRARY SERVICES AT VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Lynn Scott Cochrane and Carolyn Warmann 55

WHO'S IN CHARGE HERE, ANYWAY?
Constance H. Corey 63

THE PAST BEFORE US: THE HISTORIOGRAPHY OF ACADEMIC LIBRARIANSHIP, PAST AND FUTURE
Donald G. Davis, Jr. and John Mark Tucker 66

INTERACTIVE PLANNING IN AN EVER-CHANGING ENVIRONMENT
Joan Giesecke and Kent Hendrickson 71

ACADEMIC LIBRARY PLANNING: RATIONALITY, IMAGINATION, AND FIELD THEORY IN THE WORK OF WALTER NETSCH - A CASE STUDY
William G. Jones 74

ACADEMIC COMPUTING CENTERS AND LIBRARIES: A PATH TO CONVERGENCE
Michael D. Kathman 84

PATRON INPUT INTO PUBLIC SERVICE LIBRARIANS' PERFORMANCE APPRAISAL
Patricia McCandless 87

POLICY FIRST: PREPARATION FOR AUTOMATION
Aline Soules 90

*THE EVALUATION QUESTION: ACADEMIC LIBRARIES ANSWER
Sally Ann Strickler 93

*RELUCTANT COOPERATION: IMPROVING ACADEMIC AND LARGE PUBLIC LIBRARY PARTICIPATION IN MULTITYPE NETWORKS
Charles T. Townley 98

*ACADEMIC LIBRARIES AND CAMPUS COMPUTING ORGANIZATIONS: RELATIONSHIPS AFTER THE FIRST CENTURY
David B. Walch 103

ACADEMIC LIBRARIES AND THE FUTURE OF EDUCATION AND INFORMATION FOR RURAL ADULTS: A MODEL
Donna L. Whitson 107

III. AUTOMATED SERVICES 111

AUTOMATING TRADITION: USE OF THE LIBRARY OF CONGRESS MARC TAPE SUBSCRIPTIONS FOR LOCAL MAINTENANCE OF CATALOGING DATA
Greg Anderson 113

GENDER GAP IN THE USE OF LIBRARY TECHNOLOGIS: EVIDENCE, IMPLICATIONS, AND INTERVENTION
Barton M. Clark, Nancy Anderson, M. Balachandran, Suzanne Griffiths, Patricia McCandless, Lizabeth Wilson, and Karen Havill Bingham 116

*THE RELATIONSHIP BETWEEN CATALOGING DELAY AND THE CIRCULATION OF BOOKS IN A LARGE RESEARCH LIBRARY
David Gleim 119

AUTHORITY CONTROL: CARRYING AN AGE OLD PRACTICE INTO AN AUTOMATED FUTURE
Barbara Henigman 124

THE USER GROUP PHENOMENON
Roger L. Presley and Carolyn L. Robison 128

*AUTOMATED WORKSTATIONS FOR PROFESSIONAL CATALOGERS: A SURVEY OF ARL LIBRARIES
Sally A. Rogers 131

THE POWER OF THE NEW MICROCOMPUTERS: CHALLENGE AND OPPORTUNITY
Eric T. Rumsey 135

IV. BIBLIOGRAPHIC INSTRUCTION 139

IMPERATIVES FOR THE SECOND CENTURY: INFORMATION LITERACY AND THE QUALITY OF UNDERGRADUATE EDUCATION IN AMERICA
Bill Coons and Jan Kennedy Olsen 141

THE COLLEGIAL CONNECTION: WORKING WITH TEACHING FACULTY TO CREATE A NEW COURSE
Paula Elliot and Alice Spitzer 144

ENHANCING USER ACCESS: REFLECTIONS AND A MODEL
Cliff Claviano 147

LEARNING TO LEARN: USING ELECTRONIC INNOVATIONS IN LIBRARY INSTRUCTION
Mary Griffin 151

STUDENTS MENTORING STUDENTS IN LIBRARY INFORMATION SERVICES FOR UNDERGRADUATES
Terrence Nollen, Linda Parker, and Eva Sartori 154

EVALUATION OF BIBLIOGRAPHIC INSTRUCTION: DIRECTIONS FOR THE NEXT CENTURY
Nancyanne O'Hanlon 158

MAKING REAL CHANGES: COURSE INTEGRATED INSTRUCTION AND ITS IMPACT- A CASE STUDY
Joan Ormondroyd 163

BRIDGES TO THE FUTURE: A CHANGING FOCUS FOR BIBLIOGRAPHIC INSTRUCTION AND INFORMATION LITERACY
Lois M. Pausch and Mary Pagliero Popp 166

APPLYING COGNITIVE METHODS TO BIBLIOGRAPHIC INSTRUCTION
Elizabeth Smith 170

LEARNING STYLE: ITS PLACE IN LIBRARY INSTRUCTION
Andrea Wyman 178

V. COLLECTION DEVELOPMENT 186

WHOSE MONEY IS THIS ANYWAY? BUDGET ALLOCATION AND SELECTION RESPONSIBILITY IN COLLEGE LIBRARIES
Sallie H. Barringer 188

*OVERLAP AND DESCRIPTION OF PSYCHOLOGY COLLECTIONS IN RESEARCH LIBRARIES
Stella Bentley 192

WHERE DOES THE MONEY GO? MEASURING COST-EFFECTIVENESS USING A MICROCOMPUTER TO ANALYZE JOURNAL-USE DATA
Tina E. Chrzastowski 201

ADAPTING AN AS/RS TO THE LIBRARY ENVIRONMENT
Douglas A. Davis, Norma S. Creaghe and Norman E. Tanis 205

*EVALUATING JOURNALS: CAN FACULTY DO THE JOB?
Nancy I. Elder 208

*LIBERAL ARTS COLLEGE LIBRARY ACQUISITIONS: ARE PAST PRACTICES APPROPRIATE FOR THE FUTURE?
David H. Eyman 211

*CASSI AND COLLECTION ASSESSMENT: NEW USES FOR AN OLD TOOL
Christine Johnston 218

WEEDING THE COLLECTION: ARE LIBRARIES FAILI[illegible] THEIR CHARGE?
James R. Mouw 224

PRESERVING OUR EDUCATIONAL HERITAGE: THE NEED TO ESTABLISH REGIONAL HISTORICAL CURRICULUM COLLECTIONS
Nancy Patricia O'Brien 227

*CIRCULATION PATTERNS OF RECENT IMPRINTS: IMPLICATIONS FOR THE MATERIALS BUDGET
Jane B. Treadwell 230

THUNDERBOLT ON CAMPUS: RACIST MATERIALS IN THE ACADEMIC LIBRARY
Carroll H. Varner 235

*POLITICALLY CONTROVERSIAL MONOGRAPHS: ROLES OF PUBLISHERS, DISTRIBUTORS, BOOKSELLERS, CHOICE MAGAZINE, AND LIBRARIANS IN ACQUIRING THEM FOR ACADEMIC LIBRARIES
Charles Willett 238

VI. INTERNATIONAL PAPERS 242

AFRICAN IMPRINTS IN LIBRARY COLLECTIONS: PATTERNS OF DISTRIBUTION AND REVIEWS
David L. Easterbrook 244

AN AUSTRALIAN "DIME NOVEL" PUBLISHER
Carol Mills 246

LATIN AMERICAN ACQUISITIONS: A CONTINUING CHALLENGE
Joan M. Repp 250

BUILDING A FOREIGN LANGUAGE COLLECTION: CHINA'S NATIONAL LIBRARY
Priscilla C. Yu 253

VII. PERSONNEL 256

*MANAGEMENT COMPETENCIES OF MIDDLE MANAGERS IN LARGE ACADEMIC RESEARCH LIBRARIES
Martha J. Bailey and Marcy Murphy 258

PURPOSEFUL "SCHIZOPHRENIA": CREATIVE STAFFING THROUGH THE USE OF SPLIT POSITIONS
Caroline Blumenthal, Sharon Cann, Virginia Moreland, and Ralph Russell 262

NO MORE GOOD WORKERS: EXCELLENCE AND THE ACADEMIC LIBRARY CLASSIFIED STAFF
Mary K. Bolin 265

IDENTIFYING ADMINISTRATIVE POTENTIAL: A SURVEY
Margaret E. Galloway, Maurice Fortin and Robert Follet 268

INSTITUTIONAL RESPONSES TO CAREER PLATEAUS
Ellen Hoffmann 272

*A REEXAMINATION OF THE CAREER PROGRESSION PATTERNS OF ACADEMIC LIBRARY ADMINISTRATORS
Barbara B. Moran 276

*THE EFFECT OF FINANCIAL COMPENSATION POLICY ON THE ATTITUDES OF DEPARTMENT HEAD LIBRARIANS AT THE UNIVERSITY OF CALIFORNIA
Gregor A. Preston 281

VIII. PRESERVATION/SPECIAL COLLECTIONS 286

*SELECTION FOR PRESERVATION: APPLICATIONS FOR COLLEGE LIBRARIES
Charlotte B. Brown and Janet Gertz 288

NETWORKING FOR DISASTER PREPAREDNESS & RECOVERY
Sheryl Jean Davis 295

*CUSTODIANSHIP TO CONSERVATION: BUILDING ON THE PRESERVATION FOUNDATIONS OF OUR FOREBEARS
Barbra Buckner Higginbotham 298

COMMON PROBLEMS, COMMON SOLUTIONS: THE PRESERVATION CHALLENGE FOR LIBRARIANS AND ARCHIVISTS
Anne R. Kenney 303

SPECIAL COLLECTIONS AND SCHOLARLY RESEARCH: A CENTURY OF CHANGE
Gretchen L. Lagana 307

THE CAIRNS COLLECTION: WOMEN'S WRITING IN PERSPECTIVE
Yvonne Schofer 310

IX. READERS' SERVICES 314

EXPERT SYSTEMS AS INTERACTIVE USER AIDS
Ralph Alberico 316

INTERLIBRARY LOAN: A WINDOW ON THE INFORMATION WORLD?
Barbara J. Ford and Paul A. Frisch 319

*OUTCOMES OF PRINT AND ONLINE READY REFERENCE SEARCHES: SUMMARY OF AN EXPERIMENTAL STUDY
W. Michael Havener 323

*DESIGN AND TESTING OF MICROCOMPUTER INTERFACE SOFTWARE FOR END-USER SEARCHING
William H. Mischo 328

BRS AFTER DARK AT THE UNIVERSITY OF ARIZONA LIBRARY
Jeanne L. Pfander 331

EXPERT SYSTEMS: NEW CHALLENGES AND OPPORTUNITIES
Donald E. Riggs 334

*THINKING LIKE A SEARCHER: COGNITIVE STRATEGY AND THE SEARCH PROCESS
Donna Rubens and Mary M. Huston 337

X. PROGRAM PRESENTATIONS 343

AUTHOR INDEX 351

SUBJECTING INDEX 352

* Indicates a research paper

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Preface

Members of the Association of College and Research Librarians celebrated one hundred years of academic libraries at the Fifth National Conference held in Cincinnati in April, 1989. The celebration of the 100th anniversary of the founding of the College Library Section of the American Library Association seemed the perfect occasion to both celebrate our past and anticipate our professional and organizational future. Librarians worldwide were invited to submit proposals for papers, programs, and poster sessions. Proposals were sought on issues relating to all aspects of higher education and academic librarianship with an emphasis on topics linking the past with the future.

As we in the profession look to the future of librarianship, we gain much by reflecting on our past. Michael Hawley, keynote speaker at the conference, reminded us of this when he observed the transformation of the profession through the invention of paper, the invention of the printing press, and the invention of the computer and digitized books. All have had and are having a tremendous impact upon libraries and librarianship. Library education and training have changed tremendously from that received by the first library school graduate in 1900. Contemporary debates over censorship occur with frightening reminders of past battles.

The rapid changes that are occurring in the field of librarianship and in education require that those entering the profession engage in various types of educational activities throughout their careers. Librarians are forced to cope daily with an ever changing, never ending information-age revolution. Knowledge of all aspects of automation and technology, including computers, scanners, online systems, online searching, CD-ROM capabilities, new video formats, interactive videodisks is a necessity for the effective librarian. As knowledge changes so do positions, responsibilities, and salaries.

Concern about educational excellence and effectiveness of all providers of education or information is prevalent. Libraries, library systems, and library services have joined others in higher education and entered the age of assessment. They are encouraged and indeed, required by regional accrediting bodies to establish measures of effectiveness.

These are but a few of the issues facing our profession as we "Build on the First Century." The Conference Planning Committee attempted to provide ways in which the many issues might be explored. Six major speakers, contributed papers, both research and position, programs including panel presentations, discussion group sessions, and idea briefs, and poster sessions gave people opportunities for participation in the Conference.

Contributed papers were a major feature of the Conference and were received in two categories:

> Research reports described studies which utilized rigorous research methodology, included identified hypotheses, and had clearly stated conclusions.
>
> Position papers identified a problem and proposed the solutions. Locally implemented experiences (successes and failures), theoretical models, or state of the art reviews were described. The position papers did not require formal research methodology although they did require a clear position or concept.

Two hundred three persons submitted proposals. Of those one hundred fifty-nine papers in final form were received. Eighty-eight persons familiar with librarianship and research were selected to serve as reviewers. Papers were reviewed in a blind referee process with final selection of papers being recommended by at least two reviewers. Criteria for selection include clarity, originality, relevance to the theme, timeliness of the topic and suitability for oral presentation.

Reviewers' comments and advice relating to content were sent to authors with suggestions for incorporation into the final paper. Authors received detailed instructions for preparing the paper for publication and submitted their papers in final camera ready format. Thus, this editor can take no credit nor blame for accuracy or errors.

Ultimately seventy-seven contributed papers were chosen for presentation at the Conference. Twenty-one research papers and fifty-six position papers were presented. Those seventy-seven papers are included in this volume along with the submitted program descriptions.

Contributed papers have been grouped into the categories of academic/research librarianship, administration, automated services, bibliographic instruction, collection development, international papers, personnel, preservation/special collections, and readers' services. Some do not logically fit into their assigned category but do fall in the general subject area. In each category papers are arranged alphabetically by first author's last name. An author index is provided, as is a subject index. Keywords used in the subject index were provided by the authors. Slight modifications were made for clarity and consistency. Page numbers refer to the number of the first page of the associated article.

The concept of programs at an ACRL Confrence was a new idea for 1989. The Conference Committee made the early decision that a need existed for a different kind of presentation other than that of a formal paper. An opportunity for group discussions, panel presentation, workshop forums, and idea briefs either thirty or sixty minutes in length was provided. Program presenters wrote a brief description (less than 200 words) of the program they wished to present.

Based on the brief description the Committee made a decision as to its inclusion in the Conference Program. Participants were then invited to submit a descriptive paragraph of the program for inclusion in the Proceedings. Those descriptions which were submitted are included in this publication.

Many persons contributed to this volume. First and foremost, it would not be possible without the authors of the contributed papers. Names, institutions, and topics will remain embedded in my memory for some time to come. Authors and ideas became real as we met for the first time in Cincinnati.

The Conference Planning Committee, co-chaired by Martha Bowman and Evan Farber, worked closely as a unit. Each member had assigned responsibilities, yet each member made contributions to the unit. I will not soon forget the collegiality and congeniality of the Committee.

Cathleen Bourdon, ACRL staff liaison, was of invaluable assistance. She provided not only advice and recommendations but also labels, samples of forms and letters used by previous committees. With her trusty pencil and pad, she took enough notes to remind any occasionally forgetful members of our committee of every detail which transpired in meetings and on the telephone.

The staff of the Georgia College Library supported and encouraged me every step of the way. Staff members not only served as reviewers, but organized papers, delivered mail, advised, and worked faithfully at their regularly assigned duties with never a word of complaint while I devoted much of my time to the "contributed papers" project. Two staff members deserve special recognition. Ms. Pretrillion Whipple assisted in the initial listing and entering of names and addresses of authors into the computer files. Upon Ms. Whipple's resignation my secretary, Ms. Jacquelyn Keener not only performed her regular duties but assumed responsibility for all secretarial chores associated with the project. She typed, organized, mailed, drafted letters, edited and advised both contributors and me about formats, procedures and innumerable other details. She became my right hand throughout the project. To her I owe a special debt of gratitude.

Last, but certainly not least, I should mention my very special fan club. Without the support and encouragement of my husband and daughter this task would have been unusually difficult. Thomas Armstrong served as listener, consultant, editor, advisor, and partner. My daughter, Shannon Fennell, knew that Mother was involved in a very large project and would be attending a "big" meeting; she gave her verbal encouragement every step of the way.

The Proceedings are a culmination of two years of planning, organizing, corresponding, writing, and more organizing. As we librarians build on the first century, we look forward with great anticipation to the second century.

I.

ACADEMIC/ RESEARCH LIBRARIANSHIP

ACADEMIC LIBRARIAN RECRUITMENT: EVALUATING PAST PRACTICES TO HELP SHAPE FUTURE PROCEDURES

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Abstract. This position paper examines aspects of academic librarian recruitment including: 1.) position descriptions, 2.) letters of reference, 3.) resumes, 4.) letters of application, and 5.) interviews. Each of these can be both revealing and misleading. Past practices are examined and recommendations for the future are considered. The ideal situation should involve careful recruitment stages that keep in mind the many potential pitfalls within each procedure or tool.

Keywords and Phrases. Applications for Positions. Recruitment. Position Descriptions. Letters of Reference. Resumes. Interviews.

This paper will examine recruitment approaches in order to make recommendations for the future to aid both academic libraries and the individuals applying for positions. It should be noted that although there are many similarities between academic libraries (shaped by Affirmative Action), there are also individual differences. The applicability and usefulness of what I am discussing may vary from library to library.

Within the scope of recruitment, I will treat the position description, letters of reference, resumes, letters of application and interviews. Each of these items can be both revealing and misleading. Given the complexities and changing nature of today's academic libraries as well as problems built into these tools, they may be used to select the wrong individuals to interview and perhaps not the best of the interviewed group for the position.

POSITION DESCRIPTION

Typically a search committee will help draft the position description. Details overlooked at this stage can come back to haunt. Qualifications listed on the position advertisement ultimately are used as the criteria on which to base screening and selection. If you place something in the required qualifications that is more appropriately placed in the desirable group, you may have to screen out some viable candidates according to Affirmative Action guidelines. The more thought that goes into this procedure, the less chance you will back yourself against a wall. Affirmative Action officials are concerned about procedure, i.e., how you apply these listed criteria, to what groups, and at what stage of the process. Do you use some kind of numerical system? Do you rank candidates? Do you treat all candidates equally throughout the search process? To some degree these concerns all come back to the position description. It might be best to have the search committee play an integral role in the construction of the qualifications. They have to live or die by these qualifications. They will help determine who applies and who is chosen for the position. The search committee will approach the important task ahead of them with more enthusiasm and exactness if they are in on the ground floor of the process.

REQUESTING REFERENCES

Applicants are requested to submit the names of a given number of references, or request the references to send letters and/or arrange for a placement file to be sent. From my own perspective of participating on and chairing many search committees as well as frequently writing letters of references, I prefer the committee make decisions concerning requesting references for specific candidates rather than the practice of routinely requesting references for all applicants. An initial screening for required qualifications can usually be done without requesting references. This saves the hours of many individuals spend creating references for unqualified applicants who really stand no chance of obtaining the position. One contrary argument is that waiting until all applicants are screened before requesting references can back up the procedure for weeks. However, a well organized search committee (or an individual or two designated by the committee) can screen applications as they arrive and throw out the obvious deadwood based on required qualifications. If there is any element of doubt, references should be requested. By the time the application deadline arrives, applicants have already been screened for the required qualifications, and references have been requested only for candidates who have at least minimal potential to be further considered. At least this approach could be considered for searches with larger applicant pools.

LETTERS OF REFERENCE

Letters of reference are complex with regard to interpretation and often seem to be becoming more and more meaningless. An honest letter geared towards an individual's potential to perform in a specific position provides a wonderful vehicle to evaluate a candidate. These seem to not be in the majority. Letters in placement files often tend to sound alike. Over time, if you recruit entry level librarians, you can learn which faculty at which library schools churn out repetitive computer produced letters and who actually gives some thought to the candidate and the position. You also learn how to read between the lines in attempt to uncover what the reference really thinks (knowing full well that the applicant will usually have an opportunity to read the placement file reference). A solution may be to not rely totally on placement files. Perhaps references for employment prior to library school should be solicited and carefully evaluated. Also, references can be asked to react to specific questions (or at least minimally to react to the position description). Telephoning the reference for clarification when appropriate can help the decision making process. References often become more revealing when the information is not on paper. The "feel free to call if you desire more information" approach from a reference is often an open invitation that additional information is ready and waiting. There is also the case of being too good. As unethical and disturbing as it sounds, there are situations where reference letters and/or verbal communications are not as excellent as they should be for some candidates because the administrator involved would prefer the individual stay put. Although everybody is expendable, it is a fact of life that some individuals can be missed a great deal and can dramatically lower the level of service in some institutions. Such a selfish reference can stymie a career. Sometimes I'd like to get a reference for a reference! In any case, one must realize that letters of reference are being written against a backdrop of defamation of character lawsuits.[1] I enjoyed Robert J. Thornton's description of letters of reference as increasingly unreliable as tools for evaluating candidates. He offers his Lexicon of Inconspicuously Ambiguous Recommendations (LIAR) and Titigation-proof phrases.[2] One article treating academic administrators recommends that committee members ignore letters of reference and rely on phone calls to people who know the candidate![3]

RESUMES

Regarding resumes, it has almost reached the point where the beautifully constructed computer-produced resume with all sorts of type sizes and even designs, etc. becomes a detriment. Perhaps this individual may not have the wherewithal to produce his/her own resume and has to pay someone else to do it. Perhaps this individual may be trying to distract the reader away from the content, e.g., skimpy credentials. Resumes that get serious consideration are usually void of distractions. Resumes padded with more than you ever want to know can create difficulties. The individual may not have the confidence or common sense to list only the information that needs to be presented.

LETTERS OF APPLICATION

Regarding letters of application, candidates often do not realize the importance of addressing the listed criteria for the position. Some may attach a shoddy, badly typed letter to a beautifully produced resume. Others may display their naivety by mentioning salary, potential interview dates, and the like in the letter. Candidates should attempt to learn about typical recruitment procedures and avoid listing items or asking questions that lie outside these procedures. Exceptions don't usually work well in national searches for professional personnel. I look for a concise letter that honestly lists assets and liabilities regarding the stated criteria and backed up by a carefully produced resume. A one or two sentence letter simply stating that one is applying for the position and a resume is attached may work for a few individuals but generally leaves too much to the imagination of the search committee members. They are attempting to make sense out of a bunch of unfamiliar names; checking resumes, letters and references against required and desirable criteria; and generally (perhaps unfortunately) looking for excuses to eliminate names until a screened pool for interviewing is reached. Why chance premature elimination because your letter or resume doesn't address a specific criteria? This is especially important when ambiguous "knowledge of..." statements are part of the listed criteria, e.g., "knowledge of online searching techniques" or "knowledge of grantmanship." Some search committees assume that criteria not addressed by the candidate are not fulfilled by the candidate. They often do not have the time (or take the time) to telephone every candidate in order to check on whether they possess knowledge of a specific concept or service.

INTERVIEWS

Interviews usually provide us with the best information. (Unfortunately only a small percentage of candidates for a given position receive this opportunity.) How do the candidates handle the pressures of a vigorous day or two? How do they approach difficult questions? How do they present themselves during intimidating formats, e.g., being handed a list of hypothetical questions to address verbally, each requiring some deliberations and none having any real correct answers? How do they behave under fire? What kinds of questions do they ask? How do they act in front of large groups, small groups, during informal moments? Yet, I've occasionally experienced an empty feeling after an interview because I knew that we were going to let a potentially excellent candidate get away because he or she did not have the best interviewing skills. I've seen great interviews yield librarians who are mediocre, at best, at their jobs. Interview skills and reference work skills do not necessarily go hand-in-hand. Skills as an orator and skills backing up what you say do not necessarily correspond. Saying that you have empathy for the student trying to make sense out of a confusing research library and actually displaying empathy at the reference desk are often two distinctly different worlds. A difficult decision is whether we should recruit the individual who already has experience at the same type of job or opt for the person with ability but not experience who might bring something new and be challenged. We should also note that interviews are interactive situations. A well planned interview can bring out the best in candidates. Carelessly planned interviews with long periods of silence by the interviewers, or the same questions posed too often, can create a situation where the candidate fails to meet expectations. Although I've often listened with interest to candidates who dramatically change their answers to the same question depending on who is asking it and in what context. I've noticed a candidate's grade point average and number of children change dramatically between the ride from the airport and discussion over lunch. I've listened to a candidate tell library faculty the importance of keeping control of collection development within the library and then tell a group of "teaching" faculty how the optimum system is when funds are controlled by the faculty, not librarians. One can make important judgements from such lack of consistency.

Simply picking up a candidate at the airport can often tell more than you want to know. One has to work hard not to let incidents cloud the actual interview. I've found myself biting my tongue to avoid biasing others when asked "what was he/she like when you picked him/her up?" I've met a weaving candidate who obviously had more than a few drinks too many on the flight. She didn't do too well. One fellow got off the airplane with blood oozing out of a cut on his head and immediately told me, "I don't want to talk about it." He didn't talk much on the next day either. I once got off of a turbulent flight with completely stuffed ears. The individual picking me up attempted to begin firing questions at me within seconds of his debilitating handshake. I could barely hear a word and must have come across as rather unresponsive.

A good interview involves a candidate who is carefully evaluating the institution and it's employees in order to determine whether it is where he/she desires to spend his/her future while at the same time the interviewers are evaluating the candidate's abilities to perform in a particular job. One related problem is what I've termed the "niceness factor." A comment I've often heard during post interview discussions is "I can work with him/her. He/she is nice." Sometimes search committees and librarians tend to recommend the smooth, pleasant, nice person, i.e., the one least likely to ruffle feathers. This is particularly true for administrative and supervisory positions where some individuals can become leery of someone too strong or too likely to shake up things. This may be unfortunate since it can lead to the selection of exactly the wrong type of person for the job. Ideally libraries should find someone who is both "nice" and effective.

PROACTIVE APPROACH

Perhaps we need to be more proactive in our complete recruitment approach. Many libraries passively advertise in a couple of library and/or higher education sources, sometimes mail out position announcements to library schools and selected libraries, and then sit back and wait. Librarians who could possibly be on the job market might take a query about an opening quite seriously if they are actually recruited. Requesting nominations and/or going after some individuals who you believe are capable can result in a better pool of candidates and perhaps a real coup for the library. Note that an Association of Research Libraries, Office of Management Studies (ARL-OMS) SPEC Kit on search procedures for senior library administrators[4] found that few candidates contacted in this manner are actually nominees for vacancies. Although geared for senior library administrators, this kit is an excellent source of information for recruitment policies, procedures and guidelines. Another excellent source of information is an ARL-OMS occasional paper treating selection of the university librarian.[5] There are even firms that specialize in executive searches for libraries.

CONCLUSION

The complex academic library of today presents challenges requiring new modes of thought and service by librarians. The stages of recruitment for professional positions should be internally examined. Potential pitfalls within each procedure and tool should be considered so that we optimize our chances of hiring the best person for each library opening.

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NEW PUBLICS FOR THE ACADEMIC LIBRARY: TECHNOLOGY AND CHANGE

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Abstract. New uses of communication technologies by the academic library are substantially altering the way the library is perceived and used by current and evolving library constituencies. User-oriented online catalogs capable of supporting multiple databases and dial-in access and the use of telefacsimile, microcomputer bulletin boards, and electronic mail systems in fee-based information services marketed to off-campus users, have resulted in increases in information requests from the business community and other non-traditional academic library users. Through such technology, new publics are created whose demands will alter the traditional concept of the academic library.

Keywords and Phrases. Fee-based services, library instruction, reference services, remote users.

Only a few years ago the academic library was a place to which one traveled, sat and read, took notes, and left--with or without books and usually without journal articles unless they were photocopied. Today, new technologies show signs of substantially altering how the academic library is used and perceived.

Traditionally, academic librarians divided users of their libraries' into three distinct groups: faculty, students, and off campus patrons. To each they felt varying degrees of responsibility. Faculty, for example, deserved materials and services that supported research. Students required assistance with coursework. Off campus patrons were welcomed into academe if their needs were similar to those of scholars and students.

For the most part this was a clean cut world. We built collections based upon research and curricular needs, and we offered catalog and reference services to provide access to the materials we house. Our libraries' users passed through our doors, we imagined, in pursuit of the knowledge contained in our collections. They were very visible approaching reference desks to ask questions, standing in circulation cues and waiting to exit with books in hand. Now, however, many of our patrons no longer present themselves at the reference desk, or, perhaps, even in the library; instead, transactions, intellectual and otherwise, are accomplished electronically.

Although the academic library still resides within walls and provides traditional services, OPACs connected to the campus communications network and online catalogs serving as gateways to database vendors, have created significant numbers of new users who may never set foot inside the library or request services of a librarian.

These invisible users fall within four loosely defined categories. First, there is the traditional library patron, knowledgeable in specialized retrieval and research skills, who now possesses sophisticated and complex scholarly tools. Second, there is the computer literate student who has come to terms with the computer as a means of communication and as a finding tool for data; third, businesses, which use computers to find information and to interact with the business world. Finally, there are those who encounter the library because they use computers and through computers discover the library as an information resource.

REFERENCE ISSUES

New communication and retrieval technologies require fundamental changes in reference work. The online catalog, for example, when no longer restricted to the medium of books, should prompt a much closer scrutiny of how users behave in this new information environment. Invisible users do not appear at the reference desk to ask questions about searches and therefore do not have the advantage of reference librarians' expert advice about search language or the principles of database searching.

In this new environment, the role of librarian as consultant appears crucial. Users' inadequate understanding of principles of information retrieval do not disappear with new systems. In fact, user-friendliness in a retrieval environment means more than simply ease of use; somehow the intellectual process crucial to successful retrieval must be conveyed. This user-friendliness can only be achieved if librarians move away from traditional service points like the reference desk, and make themselves accessible to the online user. Ideally, this might take the form of online interaction or an electronic note system, both technically feasible.

Reference librarians also face the thorny problem of how to balance support of remote users with the needs of regular users. For example, remote access promotes a more varied and different use of the collection, in certain instances, reshaping the collection toward new information needs. These changes prompt a number of questions. For instance, can a reference collection support the purchase of the journals businesses seek as a result of an online search? Or in terms of intellectual labor, can reference librarians devote time to the ever-expanding number and complexity of online services while maintaining traditional collections and services? And what of those users who discover the library because it is a repository of public information. In a general sense, can the academic library expand its scope without a fundamental reordering of its prior commitment to students and faculty?

FEE-BASED SERVICES

One response to businesses' demand for library services has been the creation of fee-based information services to better meet their information needs. In general, these services provide expedited interlibrary loan or document delivery, online searching and research, and some provide data compilation, report writing, consultation and translations. In many cases these services are an extension of existing services which have been reorganized into a specialized unit that is expected to operate on a cost recovery basis. In competition with these university-based services are the private information brokers, online database vendors, and CD-ROM suppliers.

As librarians, we are aware of the marketing efforts of the online database vendors and CD-ROM suppliers to the library community. Equally active marketing efforts are aimed at the end user, such as physicians, engineers, attorneys and consultants. Database vendors are creating front end systems for menu driven access to families of databases, e.g., DIALOG's Medical Connection and Business Connection. PsychLIT and Medline on CD-ROM are being marketed to physicians. What impact does this have on libraries as information centers?

These new consumers of information are some of the new publics of academic libraries. Reference librarians and instructional librarians can be called on to provide training or consultation on how to best utilize the CD-ROM products. With our knowledge of database design and construction, we can advise these new users on which sources will best meet their needs. Once they have become aware of the power of computer-based research, they may call on the library to do searches on databases to which they do not have access or only need researched occasionally.

Document delivery or interlibrary loan has become an even more important function. Through database searches, the use of CD-ROM and access to online catalogs, the off campus community is aware of books, journal articles, government reports, patents, newspapers, and newsletters which may or may not be held at their local institution. The widespread use of telefacsimile and expedited delivery services mean that clients no longer have to wait three weeks, two weeks or even one week for an article. Their expectations have changed, and if libraries cannot meet these expectations private information brokers will.

Our off campus publics, however, are our greatest allies. Special librarians support the technological advances of the university libraries that make their job easier. They are avid users of dial-in access to online catalogs and supporters of expedited document delivery, even if an additional fee is charged. Small and large business are pleased to learn that a service has been created to meet their needs and help them to obtain the information they want. Without ever setting foot in the library, they have access to all of its resources.

The off campus public will become increasingly aware of new information technologies. Whether they turn to the university library to help them utilize these technologies will depend on the services created by the library. A fee-based information service is the focus point where these needs can be addressed.

INSTRUCTIONAL ISSUES

Among the libraries' new publics are represented a broad variety of library research skills, and an equally broad range of familiarity and expertise regarding the new library technologies; and among these new publics, too, are reflected a broad and diverse range of library instructional needs. Meeting the instructional needs of these remote library users presents new challenges for librarians and portends a new role for instruction in the academic library setting--and perhaps a new, emerging role for instructional librarians as well.

As dial-in access to the university library and the marketing of commercial information services directly to the end user accelerate the demand for information and new information products, the library will increasingly be perceived as the repository of research expertise, rather than a repository of books, journals, and other research materials. The quality of a library's human resources will replace the quantity of a library's material resources as the primary yardstick for measuring a library's importance, value, and effectiveness in meeting researcher's needs.

Whereas in the past instructional expertise in using information resources was sought out by researchers at the reference desk and other service areas within the library, the remote library user or remote end user of commercial information products is now separated by distance--often by great distances--from the librarian's expertise. Moreover, the number and diversity of electronic databases, and their attendant variety of features, procedures, and protocol for use make the librarian's special expertise even more valuable to the occasional researcher. Though progress has certainly been made in creating "user-friendly" library online catalogs and commercial information products, these systems and products have contributed very little, if anything, to increasing the information literacy or research skills of their users. In fact, some might argue that "friendliness" itself may prove an impediment to the "quality" of users' research by creating the illusion that the machine , not the researcher, is formulating research strategies and determining the appropriate or needed level accuracy vs. retrieval. In fact, many users of such catalogs and databases often lack the basic understanding of the scope, content, and currency of the data they are searching--information necessary to determine the appropriateness of their database selection for their information need. As information products proliferate, the problem of source selection increases, as does the need for the librarian's expertise in guiding and advising researchers in this basic but often misunderstood first research step in the electronic environment.

Similarly, the librarians' expertise in database architecture, indexing and search skills must be made equally available to both on-site and off-site users of the university's information resources if librarians are to fully participate in the academic process in the emerging information environment. The very same technology which challenges librarians to reach out beyond the library's walls may also provide some of the solutions to these challenges. Electronic mail and bulletin boards, developments in artificial intelligence and interactive video all hold promise for delivering personalized instruction to off-site users at their point of use and time of need.

Making our new publics independent consumers of information is not enough in this complex electronic environment. Making them smart consumers must also be our goal. To give our new publics the knowledge and skills necessary to make appropriate database selections and to evaluate the quality of their search results, must be a priority for librarians in the new information age.

IN THE SAME BOAT TOGETHER: CREATING AN ENVIRONMENT FOR RESEARCH AND PUBLICATION

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Abstract. Academic librarians today find that more is expected of them in the area of research and publication than was true in the past. Librarians who worked at Georgia State University from 1978 to 1987 were surveyed regarding their research activity, the types of support received, the obstacles to doing research, and the advantages or disadvantages of creative activity. The survey showed a marked increase in activity between 1978-1982 and 1983-1987. Library faculty members responded to the increased institutional pressure and demand for creativity by developing a workplace culture supportive of scholarly pursuits. This positive environment and other factors which the authors believe helped Georgia State University librarians respond successfully to the growing demand to publish are discussed.

Keywords and Phrases. Faculty research, research environment, cooperative research environment, research and publication, creative activity.

At the July 1988 meeting of the American Library Association, an award was given for the best article published in College & Research Libraries during 1987. "Librarians and Faculty Members: Coping with Pressures to Publish"[1] compared librarians and teaching faculty and examined ways in which both met publication pressures. This article recognized that many academic librarians today must perform research and publish their findings, a situation resulting from the push by librarians in the early 1970's for faculty status and tenure. As more institutions granted these demands, librarians found certain obligations inherent in their new status, prominent among them, research and publication.

In truth, publication for librarians is often an onerous task. Arguments citing time constraints, lack of training in research methodology, or simply no interest in publishing are valid observations, but regardless of personal feelings, many academic librarians do face publication pressures. This reality became apparent at Georgia State University in 1982 with the arrival of a new Vice President for Academic Affairs. He made it clear that librarians would meet the same criteria for promotion and tenure as teaching faculty, including publication. There was no equivocation: the cliche "publish or perish" would apply. There followed a period of speculation that this was simply a matter of appearance, that surely we could still substitute service or contributions to the profession. There was even a committee of library faculty which recommended that librarians not be required to publish, or if they had to, that it be counted as less important than job performance or service. But in the end, the reality was that like the teaching faculty, librarians must indeed publish. Based on the Board of Regents definition of creative activity, criteria for the award of tenure and promotion to Associate Professor specify publications of high professional merit in refereed journals with regional or national circulation. For promotion to Professor these publications are defined as books or monographs receiving favorable reviews. This is the reality at Georgia State University Library.

It has now been six years since we at Georgia State faced the necessity of publication, and it seems to us that as a group we have accomplished what was demanded with less difficulty than anticipated. In discussing this with other librarians, we concluded that the atmosphere at Georgia State was particularly conducive to fostering research and publication by librarians, and further, that this climate had been deliberately fostered. In the only similar study revealed by a literature search, this was referred to as "a more congenial environment and improved conditions for research."[2] We decided to try to identify the factors influencing our conducive climate in the belief that other institutions might benefit from our findings. Having worked nearly a century to achieve faculty status, librarians are not likely to relinquish it easily, and the publication pressures cited above will not disappear.

SURVEY OBSERVATIONS

To study our situation we devised a short questionnaire for current and past library faculty. We sought information about reasons for engaging in research and the advantages and disadvantages or obstacles involved. Motivations for engaging in creative activity included that it was required, it was appropriate, and it advanced one's career. Interest in research and encouragement received were also mentioned. Advantages cited were: personal satisfaction, a sense of accomplishment, professional growth, learning new skills, and improved relations with colleagues. Promotion and tenure were also seen as advantages. The primary obstacle or disadvantage concerned time; respondents objected to using personal time for research and many cited time taken from regular duties. Other obstacles were feelings of personal inadequacy, lack of adequate preparation for or interest in research, low financial rewards, stress, and, occasionally, conflict with a supervisor concerning research interests.

These questions were open ended and we have summarized the responses. The impression gathered from reading them reflected an awareness of reality: creative activity was required and could lead to career advancement; professional growth and a sense of accomplishment were rewards, as were promotion and tenure; obstacles and disadvantages existed, but they could be resolved or tolerated.

In addition to the information above, we requested in our survey figures on creative activity for the period 1978-1987. By comparing the period 1978-1982 with the period 1983-1987, the effect of the increased pressure to publish after 1982 is apparent and is shown in the table below. The increase in creative activity shown was not the result of added personnel, since the number of librarians averaged 30 for the first 5 year period and 30.6 for the second. Of interest is that an examination of the library's annual reports for the same period reveals the same pattern.

Survey

	1978-1982	1983-1987	Percent Increase
Research projects completed	70	127	81%
Individually authored	38	70	84%
Co-authored	34	59	74%

There is really nothing startling about this information. We had very much expected this type of result. What had interested us initially was that, in spite of the disadvantages involved and the feelings of some that librarians should not be required to engage in such activities, librarians at Georgia State had, nevertheless, responded successfully to the challenge of a changed environment. This was largely possible because we have been able to create a conducive atmosphere for scholarly research.

TYPES OF SUPPORT

Cooperation among faculty is a key ingredient we discovered. Periodically, the library faculty holds "brainstorming" sessions. While these are formally scheduled gatherings, the atmosphere is more that of a friendly pub gathering than a structured meeting. We share ideas for possible research topics and identify persons with similar interests who might be interested in co-authoring articles. Ideas are discussed briefly and anyone possessing knowledge or interest in the subject contributes. The last such session resulted in a list of over 40 areas of investigation which could easily result in research of value to our library in particular or to librarianship in general. For example, the first of these brainstorming sessions in 1983 led to four papers that were presented at the second biennial conference of ACRL in Seattle. Often seemingly dissimilar interests are discovered to be related, and if combined, result in a more comprehensive examination of a problem than any individual approach. This paper brought together one person interested in showing "how we done it good," another interested in organizational behavior and a third concerned with tenure and the publication requirement. Each brought strengths and perspectives which complemented the others.

When it became evident that we must publish, senior librarians were generous in sharing their expertise through active support of outright collaboration. One tenured department head either co-authored or inspired every research project coming out of her department between 1982 and her retirement in 1985. This is rare, we think, in the competitive and often political world of academia. Although that is perhaps the most extreme example of such support, there were others.

Cooperation often occurs between members of different departments united through a common interest or work related problem. The online catalog provided an opportunity for reference librarians to cooperate with catalogers. A paper and a publication resulted, and the library patrons benefited. Paperback volumes in the collection resulted in an article on shelf life of paperbacks by the heads of Acquisitions and Cataloging.

Still another type of cooperation is shown by department heads and colleagues in the reassignment of duties to provide extra time for research-related tasks. If departmental schedules permit, librarians may take advantage of flexible scheduling to provide time for creative activity. In several instances, regular duties were absorbed by other librarians and duties were shifted when necessary. Department heads allow this willingly if work does not suffer, and colleagues assume added work loads knowing that the same arrangements will be made for them when necessary.

The library has a standing Committee on Faculty Research of three members appointed by the University Librarian with staggered terms to provide continuity. They keep us apprised of calls for papers and seek ways to improve and increase support. These are librarians experienced in publishing who freely offer their help.

Tenure and promotion recommendations are made to the University Librarian by the Faculty Personnel Committee which consists of five elected faculty members. The library is considered a "college" within the university, and we are thus truly judged by our peers for promotion and tenure. While our guidelines are patterned on those of the teaching faculty, we are able to define creative activity broadly and can recognize diverse intellectual endeavors. A librarian's usefulness is often enhanced by knowledge in fields far removed form librarianship. Credit can and has been given for research and publication in such fields as women's studies, the history of medieval libraries, the history of textile manufacturing and the sociological roots of country music. The quality of the work and the utility of the results are important, not the subject content. Such endeavors are a minority, of course, for we are, after all, librarians, and librarianship is our primary concern. Nevertheless, when they occur, such contributions are recognized and applauded.

The library administration has been generous in its support of research activities by library faculty. The following are ways the administration has tangibly expressed its support:

Librarians receive two days a quarter of released time for research. Admittedly this is not much and not enough, but it is a considerable investment in terms of dollars and cents when salaries of the faculty involved are computed.

Any librarian presenting a paper at a professional meeting has his/her expenses paid by the library. For collaborative efforts, this commitment applies only to the presenter, a restriction arising out of the necessity of funding expenses for eleven librarians to Seattle in 1984.

Courses and workshops of benefit to librarians engaged in research are funded by the library and time for attendance is provided. Examples are SPSS X for statistical analysis and word processing for those unfamiliar with it. It has even covered the cost of tuition for an advanced statistics course taken by a librarian to provide a resource person to help with difficult or complicated analyses. (There is no tuition remission for faculty at our university.)

Many clerical chores involved in research and writing are handled by the departmental support staffs or the Library Administration Office. Extensive photocopying, typing, collating of questionnaires and preparation of camera ready copy, if required, are some of the more time consuming examples. In addition, the library will absorb postage for questionnaire mailings and the purchase of mailing lists. Librarians are encouraged to use university services such as funded online searches and university computer facilities.

Characteristic of the administration is that they scan journals and send congratulatory letters to be posted in each department whenever an article by a library faculty member appears. It is a small thing, perhaps, but that they do not need to be told about an article seems, somehow, significant.

CONCLUDING OPINION

In studying academic librarians at 63 ARL libraries for her 1980 doctoral dissertation, Mary Theresa Kim found that "Publishers tended to affiliate with institutions offering released research time, free duplication services, clerical assistance, research consultation, and funding access. . . . this supportive research climate defined the difference between major publishers and non-publishers and to a lesser degree, between major and minor publishers."[3] Our own experience would certainly substantiate the claim that these are elements of a supportive research climate.

In summary, we do not claim that Georgia State University is unique. Many librarians at many institutions perform research and publish the results. What we do think is perhaps different in our situation is the cooperation and support we enjoy which has created an atmosphere conducive to publication. As one respondent to our questionnaire put it, "any librarian can do it!"

It has required many years and much hard work for librarians to achieve tenure and faculty status. It will require sustained effort in the future to prove that we deserved it. At least three of us feel that this effort will be less burdensome than might otherwise be the case because of a conscious effort to work together to create our own cooperative, supportive environment.

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FACULTY STATUS: LESSONS FROM THE PAST

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Abstract. Academic librarians are in danger of forgetting the key factors which stimulated the faculty status movement of the late 1960s and early 1970s. Academic librarians who focus on the "problem of faculty status" may have lost sight of a central benefit of faculty status--eligibility for academic promotions. Knowledge of the history of the faculty status movement should be an important element of any discussion of the future of faculty status. Such discussion is a necessary prerequisite to a future in which academic librarians contribute significantly to the intellectual life of their campuses as well as to their chosen profession.

Keywords and Phrases. Faculty Status. State University of New York. Academic Promotions

CONTROVERSY

Since the heyday of the faculty status movement of the late 1960s and early 1970s much of the discussion concerning the implementation of the faculty model for academic librarians has been centered on the lost promise of the hard-fought battle for recognition as full-fledged members of the faculty. As documented by Werrell and Sullivan in their review of the faculty status literature from 1974 to 1985 there have been significant "rumblings from within the ranks."[1]

Indeed, the literature reveals continuing controversy as to the appropriateness of librarians being designated faculty on their campuses. Some librarians are philosophically opposed to adopting the identity of another profession. Others take issue with granting librarians faculty rank on more pragmatic grounds. For example, it is difficult for librarians to demonstrate national visibility as well as evidence of scholarly research and publication in tenure dossiers, when they generally have calendar year appointments and little free time to undertake research projects in their highly-scheduled work weeks.

DeBoer's and Culotta's survey of the faculty status literature of the 1980s found research and opinion indicating a backing off from faculty status on the part of librarians.[2] They note that the only faculty status "success story" they identified was Sewell's account of faculty status as found in the University of Illinois at Urbana.[3]

The overall negativism of the faculty status literature is disheartening to the faculty status advocate. It is downright appalling to those of us in academic librarianship who are aware-either first-hand or by the study of the faculty status movement's history- of the "blood, sweat, and tears" that went into gaining faculty status in the first place.

HISTORY

In 1970 Moriarity referred to the "pinpricks" that academic librarians endured as a result of being considered as nonprofessional employees on their campuses.[4] Research on the 1965-1974 State University of New York (SUNY) faculty status movement indicates that the indignities of being treated as clerical employees were experienced more as knife wounds than pinpricks. SUNY librarians (and many of their academic librarian colleagues nationwide) during the late 1960s were deeply committed to gaining faculty rank. Oral history interviews with SUNY faculty status movement leaders and participants reveal that many of them felt discriminated against as "second class citizens." The written documentation of the SUNY fight for faculty status presents a fascinating picture of librarians engaged in a struggle for recognition. Faculty status was viewed as a "right" and the battle to have that "right" acknowledged by the SUNY Central Administration took on the air of "revolution." The rhetoric of the movement was powerful, and at times, even militant.[5]

Of course, the late 1960s were years of turmoil, dissent, and standing up for one's rights. Academic librarians were influenced by the spirit of the times. For example, Blake has observed in her historical account of academic librarianship in the 1960s, "As the upheaval of the Sixties proceeded, some academic librarians began to translate the need for social change into the necessity to change themselves into professionals recognized as a valuable part of the academic community."[6] Should today's academic librarians view this phenomenon merely as a footnote in the social history of academe? Or, are there lessons to learn from the past? We think there are.

Academic Promotions

While it is almost unthinkable that academic librarians who so often function as the guardians of humankind's historical heritage would neglect to consider and learn from their own history, there are indications that this is happening. For example, oral history interviews with SUNY faculty status movement leaders reveal that a major motivating factor behind the fight for faculty rank was a strong desire to be eligible for **academic** promotions.[7]

That is, librarians were demoralized and frustrated by the traditional hierarchical promotional system in place throughout SUNY which dictated that the only avenues for gaining a promotion were either to be selected to fill a more administratively responsible position in the library hierarchy or to have one's position upgraded. Local SUNY campus administrators rarely made the effort to initiate the paperwork for position upgrades. Promotional opportunities were few and far between, especially on the four year college campuses of the SUNY system. Obtaining the right to be promoted on the basis of one's increasing professional excellence while holding the same position over the course of years was, in retrospect, the most meaningful benefit of receiving faculty rank for SUNY librarians back in 1968. Yet, in conversations with entry-level SUNY librarians, many of whom reveal their anxiety over enduring the rigors of a tenure track by expressing a sincere desire to return to the "good old" pre-faculty status days, it becomes apparent that there is little awareness of the value of being eligible for academic promotions. (And, in fact, the relatively few SUNY librarians who hold professional rank, rather than faculty rank, are not eligible for academic promotions.)

Nationally, beyond SUNY, there is little discussion concerning the existence of academic promotions for many academic librarians. The ACRL Standards for Faculty Status for College and University Librarians includes academic promotions in Standard 6: "Librarians should be promoted through ranks and steps on the basis of their academic proficiency and professional effectiveness."[8] Similar language appears in the newly-drafted ACRL Guidelines for Academic Status for College and University Librarians.[9] Yet, if the steady stream of anti-faculty status opinion pieces in the literature does portend a gradual retreat from the faculty model, are academic librarians considering the possibility of, and the implications of, possibly losing the right to academic promotions? Certainly the fact that academic promotions were included in the ACRL Academic Status Guidelines is an indication that the Academic Status Committee has recently considered the value of academic promotions. But what about most academic librarians?

It is time to start examining the roots of the faculty status movement lest we forget the pinpricks of the past. For even though few academic librarians would advocate abandoning the faculty status model in favor of being considered non-professional staff on their campuses, we must be ever vigilant to be sure that, as we forge new definitions of our role in the academic community, we are mindful of the victories of the past.

Other Gains

As revealed by interviewing the SUNY faculty status leaders and activists, SUNY librarians have been victorious. They are eligible for academic promotions. They are fully participating voting members of local campus and SUNY-wide governance bodies. (Prior to 1968 on most SUNY campuses librarians attended faculty governance bodies by invitation only and were not allowed to vote. Today librarians hold leadership positions on Faculty Senate Executive Boards.) They have a significant role in curricular reform. (For example, it was a librarian who, as a member of the SUNY at Buffalo campus-wide General Education Committee, introduced a required library skills component in the curriculum.) They are eligible for sabbaticals upon earning tenure and many of them use them as an opportunity to undertake significant research projects. And, indeed, many SUNY librarians have made significant contributions to the literature of academic librarianship since gaining faculty status. (Certainly many SUNY librarians would have been involved in research and publication activities whether they had faculty rank or not. But many of those librarians who have been at SUNY for twenty years or longer talk with great pride how librarians have accomplished more in terms of writing for publication than they ever imagined they would or even could. As one SUNY at Buffalo librarian commented to a library school class recently, "When we first heard that we would be expected to publish or perish we all said, 'We'll never be able to do that. We don't have the training. We don't have the time.' But we did it anyway.")

Still most SUNY faculty status movement activists acknowledge that SUNY librarians have never achieved what they term **full** faculty status complete with academic year appointments and salaries equal to the teaching faculty. And some fine librarians have left SUNY because they were not interested in taking on the challenge of meeting the demands of a tenure track.

THE FUTURE

As Blake has written, "...no struggle is ever fully won."[10] The concern is: Have the victories of the struggle been forgotten? Do academic librarians risk losing their hard-won status? Will a new generation of academic librarians give it away? Or is there life yet in the struggle? Is it time to make a renewed effort to achieve academic year appointments? To gain salary equity?

DeBoer's and Culotta's response to the question "Where do we go from here?" is a call for "further reports on faculty status, both positive and negative" in order to generate data for an appraisal of what status designation works best for academic librarians.[11] Academic librarians need more than reports from individual institutions on the current status of status, however.

We propose a two-pronged approach which takes into account the past and the future. First, we suggest that ACRL initiate a national oral history project with the intent of interviewing early faculty status movement activists. We can not learn from the past unless we know the past. Oral history interviews with SUNY movement leaders indicate that the fight for faculty status is interesting and useful academic library history.

Second, we think it is advisable for ACRL to initiate a Faculty Status Think Tank where the best minds in the field can meet to identify and grapple with the complex issues surrounding faculty status for academic librarians. The goal of such an endeavor would be to forge an agenda for the future of faculty status as we move into the next century. Ideally a variety of task forces with specific agendas would be instituted as a follow-up to the Think Tank. Our literature is full of **individuals** addressing the "problem" of faculty status. It is time to take **group** look at the positive and negative features of faculty status, as it has evolved historically, so that future academic librarians will be able to function as effective, active, and visible participants in all three dimensions of the higher education mission- teaching, scholarship and service.

ACKNOWLEDGMENTS

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FACULTY STATUS OR ACADEMIC STATUS: MUST WE CHOOSE?

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Abstract. Librarians at Wichita State University have had faculty status and rank for several decades. However, their tenure and promotion document did not adequately reflect the activities of librarians. Therefore, a committee of librarians at WSU have recently scrutinized their faculty status and rewritten their tenure and promotion document. An analysis of personnel documents used at academic libraries across the country revealed that the most realistic documents were those used in libraries with academic status. The committee recommended that, while the library retain faculty status, it incorporate into its tenure and promotion document the best ideas from documents of libraries that have academic status. This paper explains the problems with faculty status at WSU, reports on the work done by the committee, and makes recommendations for improvement of tenure and promotion documents for academic librarians.

Keywords and Prases. Tenure, Academic Rank, Faculty Status, Academic Status, Academic Library.

INTRODUCTION

Although academic librarians have made significant strides during this century in the attainment of faculty status, many librarians still have doubts about the value of a tenure system for librarians based on a model of teaching, scholarship and service. Issues such as twelve-month contracts and the relationship of scholarship and service to professional goals continue to be areas of concern.[1] At some institutions, librarians have addressed these concerns by leaving faculty status altogether. Academic status has been one alternative.[2] The question remains, can academic librarians stay within a tenure system, and yet develop a professional identity for librarians rather than rely on tenure models more suited to teaching faculty? Librarians at Wichita State University have made progress towards answering this question. They have decided to keep faculty status but to write a tenure and promotion document which incorporates ideas from documents adopted by institutions with academic status.

HISTORY

In 1948, librarians at Wichita State University achieved faculty rank. Even though criteria for tenure was largely based on longevity, librarians felt obliged to think in terms of teaching-faculty models in order to persuade the university community that librarians deserved faculty status. The head of the library argued that librarians teach through bibliographic instruction. They, therefore, functioned as teaching faculty and should have faculty status.

In 1972, under the direction of a new dean, the WSU library adopted a tenure and promotion policy. This policy was the first to set standards for the faculty ranks of Instructor, Assistant Professor, Associate Professor and Professor. According to the document, the triad of teaching or job performance, scholarship and service were to be the areas of consideration for tenure and promotion decisions.

PROBLEMS

However, by 1984 and 1985 entry-level librarians were being hired with no experience either in academic libraries or the tenure system. These librarians inherited demanding positions. They worried that, not only must they satisfy standards of excellence in librarianship, but they were expected to publish in refereed journals and serve on national committees before they came up for tenure in five years. In addition, they had twelve-month contracts, no release time and no clear understanding of the goals of tenure.

When these new librarians turned to the library's tenure and promotion document for guidance, they found little in the document which reflected the professional nature of librarianship. In addition, the emphasis in the document on research, publication and service had simply not been carried out in practice. Previous librarians had obtained tenure at WSU either on the basis of satisfactory job performance, longevity, or work on a second graduate degree. Therefore, the discrepancy between what appeared to be expected of candidates in the tenure and promotion document and what candidates actually did for tenure created considerable anxiety and dissatisfaction among the new library faculty. The library's tenure and promotion document needed to be rewritten to include more specific references to the practice of librarianship and its unique position within the university structure.

THE REVISION PROCESS

Therefore, a committee of tenure-track librarians was formed to make suggestions on how to revise the tenure document. The members analyzed the documents from twenty-five ARL and medium-sized non-ARL university libraries to see what criteria were used for librarians at other institutions. Some of the libraries surveyed had faculty status; others had academic status. In general, the libraries with faculty status followed the triad of teaching, scholarship and service. Those on academic status established criteria with emphasis on the practice of librarianship rather than on scholarship and service. The latter also included more flexibility in their definition of what activities constituted scholarship and service.

After analyzing the documents, the committee reported back to the library faculty with their recommendations for the new tenure and promotion document. The committee recommended that the library only keep faculty status if the current criteria were changed so that the library no longer adhered to the teaching faculty's triad of teaching, scholarship and service. The committee recognized that this triad was formed to accommodate the teaching faculty but did not adequately reflect the role of the library faculty. The committee suggested the criteria for librarians emphasize excellence in librarianship as the most important criterion for both the awarding of tenure and for promotion and to expand the two categories for activities that came under scholarship and service. They also recommended that guidelines be established to assist tenure-track librarians in developing priorities from among all the possible options for professional development. Finally, the committee recommended that the library administration yearly advise tenure-track faculty on their progress toward meeting the requirements for tenure and promotion and make available to them the resources and guidance necessary to achieve those requirements. A theme running throughout the committee report was that tenure must have more meaning than just job security and a list of things to do. The document must set goals for tenure that are important for both the individual librarian and the university. Those goals needed to lead to career-long professional development.

The writing of the new tenure document was assigned to a second library committee representing the library administration, the tenured faculty and the untenured faculty. The challenge of revising the tenure and promotion document was to incorporate the recommendations made by the committee of tenure-track librarians while at the same time satisfy the administration's and tenured faculty's desire to remain in the tenure system. The latter argued that any document that did not conform to the university-wide model that used the triad of teaching, scholarship and service would not be approved by the university community. It became clear that if a revised document was to be written, compromise was necessary.

THE FINAL DOCUMENT

The political reality of compromise for the untenured faculty was that without library administrative support the revised document would not be accepted by the university community. The committee, therefore, agreed to try to write a document that retained the triad but emphasized the pre-tenure experience as a period of experimentation and apprenticeship. Librarians were to use this pre-tenure period to establish a career goal of professional growth based on a solid foundation in the practice of librarianship. The tenure criteria would stress the practice of librarianship as the most important element. Relevant scholarship and service were subordinate to librarianship but valued equally in respect to each other. For tenure, a candidate would be expected to show excellence in librarianship and the potential for scholarship and service. As an individual grew within the profession, expectations for scholarship and service would increase as the librarian was promoted. A series of guidelines (Appendix I) showing examples of activities and evidence that could be undertaken for fulfillment of the tenure and promotion requirements was appended to the document.

CONCLUSION

After countless hours of committee meetings held during the past three years, the work on the tenure and promotion requirements for librarians at Wichita State University has been completed and approved by library faculty and university administration. The revised document will allow the library faculty to maintain faculty status while at the same time work toward meaningful professional growth within the university tenure and promotion system. The library faculty did not choose between faculty status and academic status, but rather made their own unique niche within the university by combining the best of both systems. The process of thinking about the issues and rewriting the document made the library faculty at WSU more informed and better equipped to deal with the issue of faculty status for librarians in the future. Revision of our tenure and promotion document has been a catalyst for genuine progress towards understanding what it means to be an academic librarian within the tenure system.

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APPENDIX I

THE WICHITA STATE UNIVERSITY LIBRARIES
GUIDELINES FOR APPOINTMENT, TENURE AND PROMOTION

These guidelines are intended to aid faculty members in relating their professional growth to the criteria for appointment, tenure and promotion. They are options rather than requirements; purpose and continuity of professional growth are of greatest importance.

I. LIBRARIANSHIP

A. Professional responsibilities

Because librarians' primary responsibilities differ from position to position and from department to department, they will be evaluated on the standards established for their individual positions.

Evaluation of performance may include the following abilities:

1. Communicating effectively with library users, colleagues and other university personnel.
2. Initiating, planning, organizing and carrying out projects related to professional responsibilities.
3. Setting objectives that are consistent with the overall goals of the Library.
4. Making effective decisions.
5. Preparing reports, policy statements and similar documents.

EVIDENCE

a. Evaluations by department chairs, peers, and students.
b. Assessment of the results of program improvement.
c. Other relevant evidence.

B. Professional development

1. Professional study.
2. Workshops, seminars or conferences attended.
3. Course work taken from universities, professional associations or similar agencies.

EVIDENCE

a. Transcripts and grade reports.
b. Printed descriptions of classes, workshops, seminars or conferences.
c. Statements from department chair describing how information is acquired and applied.
d. Professional communications.
e. Other relevant evidence.

II. SCHOLARLY CONTRIBUTIONS

Scholarly contributions that have undergone outside professional review represent the standard for excellence.

A. Publications.
B. Unpublished reports.
C. Ongoing research.
D. Speaker, presentor, reactor or commentator at a conference, workshop or seminar.
E. Creative work, including literary works, compositions and pictorial works.
F. Interpretation, including performance and recitals.
G. Editorial services for professional publications.
H. Consultantships.
I. Grant proposals.
J. Prepared talks to community groups.
K. Book reviews.

Note: Depending on the degree to which scholarship is involved, items G, H, I, J and K may fit here or under Professional Service.

EVIDENCE

a. Copies of publications, unpublished reports and papers.
b. Computer programs.
c. Evaluations of papers presented to professional or community groups.
d. Letters from editors, readers and peers.
e. Working papers for research in progress.
f. Copies of printed programs.
g. Other relevant evidence.

III. SERVICE

Service to the profession through contributions to national, regional or state library associations is considered an important way to enhance library effectiveness and contribute to the improvement of librarianship. Service to the Library is essential for improvement of library programs and services. Service to the University is of value. While community service may be recognized, it is less important than service to the profession, Library and University.

A. Service to the Library and University

1. Member of a library or university standing or ad hoc committee.
2. Special projects that improve the effectiveness of the Library.

EVIDENCE

a. Appointment forms.
b. Descriptions of committee work and accomplishments.
c. Copies of reports or similar products of a committee.
d. Letters from committee members and chair.
e. Other relevant evidence.

B. Service to the profession

1. Member of a professional association committee.
2. Officer or committee chairperson in a professional association.
3. Special assignment for a professional association.

EVIDENCE

a. Appointment forms.
b. Descriptions of committee work and accomplishments.
c. Copies of reports or documents produced by a committee.
d. Letters from committee members and chair.
e. Other relevant evidence.

C. Service to the community

1. Member of board, commission or committee.
2. Other professionally related activities that enhance the image of the university.

EVIDENCE

a. Descriptions of service performed.
b. Letters from association or committee members.
c. Other relevant evidence.

"WHO ARE THOSE GUYS?" A REPORT ON A SURVEY OF REFEREES OF LIBRARY SCHOLARLY JOURNALS

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Abstract. A survey of referees of scholarly journals in librarianship was conducted to gather background information that would reveal the experience and qualifications for serving as a referee. One hundred ninety-nine (199) surveys were mailed to referees and 121 responses were returned. The responses indicated that the majority of referees for scholarly journals in librarianship are employed in academic libraries and schools of library and information science, hold a position of responsibility in a professional association and are successful in publishing articles in librarianship.

INTRODUCTION

In the movie Butch Cassidy and the Sundance Kid, Butch and Sundance find themselves being tracked by a posse so skillful that no matter what they try, Butch and Sundance cannot shake the posse from their trail. Each time they think that they are finally safe, they see the posse's cloud of dust on the horizon, look at each other, and say "Who **are** those guys?" Today one might ask the same question of the persons who review manuscripts for publication in scholarly journals.

In recent years, a number of studies examining scholarly journals have been conducted in the sciences, social sciences and humanities. These papers have addressed such things as the characteristics of authors of articles [1,2] rating the quality and readers' perceptions of scholarly journals [3], the place of the journal in the scholarly communication system [4] and the criteria for identifying a refereed journal [5]. This is not surprising since journal publication is the primary method to disseminate scholarly information and research findings. Nevertheless, criticism and controversy surface frequently concerning selection methods for the journal literature prompting questions about this aspect of the process. For example, what sort of background is required to become a journal referee?. Are there motives behind serving as a referee? Are referees established scholars in the field? What is the referee's academic and professional training? In other words "Who **are** those guys?" This paper reports on the findings of a survey of "information gatekeepers" for scholarly journals in librarianship in the hope of finding some answers to these questions.

BACKGROUND

An important principle to the editors of scholarly journals is that of peer review for papers submitted for publication [6]. Evaluation of these research manuscripts is performed for the editors by the members of the editorial boards whose task is to select what are considered the best papers submitted for publication. In theory, referees are well qualified by virtue of experience, proven ability, and by holding a position of respect in the field [5,7]. Selection may bring recognition to one's institution (8), build or maintain a reputation for the journal, or serve as an indication of an individual's leadership in a field. For the referee, it is an activity that is performed without remuneration. Rewards may be limited to credit towards promotion or tenure, the opportunity to receive knowledge of ongoing research months before it could otherwise be disseminated [9], or purely for altruistic reasons. In fields where the sheer volume of manuscripts submitted means high rejection rates, referees set standards for the quality of research reported [10] and hold what is described as powerful strategic positions in the social hierarchy of their field [11]. Primarily, though, referees provide 5 functions [12, 13, 14].

1. Judge the paper's work quality and subject matter.
2. Act as an arbiter of priority or innovation by comparison to what is already available.
3. Recommend changes or reductions in the paper's length.
4. Relieve the pressure of an unfavorable decision from the editor.
5. Maintain standards for excellence for the journal and the field.

Criticism of the referee system from many individuals in virtually all disciplines can be found in the literature. Questions of sex bias in journal evaluation [15], the fallibility of a referee's judgment [16,17], and a perceived unreadability of theoretical articles among practitioners [18] are 3 examples. Some generic faults also may be found. In most disciplines the prompt dissemination of information is essential, yet the referee process often adds costly weeks or months to the publishing process. There is the risk that being a referee is an invitation to criticize, overplay weak points and underplay strengths and that the manuscript under review may contain information or proposals that are so controversial as to be viewed as a threat. Finally, editorial direction may be strong in some journals and weak in others. Where it is weak, referees for the same journal may have varying expectations of what makes a good paper.

CONDUCT OF STUDY

Individuals listed as members of the editorial boards of a "core group of library journals" were sent a survey. The core group was the list of 31 journals identified by Kohl and Davis [3] for their study of perceived prestige among ARL library directors and deans of library and information science schools. (See TABLE 1) This list constituted a revision of Jesse Shera's" hard-core of library literature" published in 1976. For each of these journals, the masthead of a recent issue was checked for the names of the editorial board members. The emphasis for this study was placed on gathering a large survey population rather than a scientific sample.

Within this core group of 31 journals, 10 journals did not list an editorial board and were dropped from the list. Referees with addresses outside of the United States and Canada were omitted in the interest of attaining a reasonable turnaround time to receive completed surveys. One hundred ninety-nine (199) surveys were mailed and 121 responses were received. Of these 121 responses, 110 were usable for "Section 2: Background Information."

The survey was comprised of 20 questions which were divided into 2 sections. Section 1 addressed "Referee Practices"; Section 2, which is the basis of this paper, solicited background information. Questions were worded to collect factual information, to reveal opinions and attitudes, and to gauge past or present practices. Works discussing how to construct a survey instrument [20, 21, 22, 23] were consulted and 6 members of the editorial board of Library and Information Science Research pretested the instrument. Certainly, there are many other questions that could have been asked. A Chi-square test was performed on the 110 usable surveys to test for evidence of systematic non-response bias by comparing the number of referees who responded to the number that did not respond for each journal. For this data, a Chi-square of 0.376 with 2 degrees of freedom (Alpha = .82) was found showing no evidence of non-response bias.

FINDINGS

The survey's "Background Information" section directed questions to the referees' academic background, current employment, and professional activities in the hope of gathering data that would present a pattern from which conclusions might be drawn.

The first question asked referees for information on their academic degrees, including work at the bachelor's level, master's level and doctoral level. (See TABLE 2) Nearly half (47 of 98) of the referees responding to the survey hold bachelors degrees in the humanities with 35 of those coming in History or English/Literature. A look at the overall breakdown offers a clearer picture. It is interesting to note that there were 11 bachelor's degrees in Librarianship reported.

For the master's degree, 75 earned an MLS and 40 held a second master's degree in another discipline.

Of the 54 holding doctoral degrees, 28 have a Ph.D in librarianship, 26 a Ph.D in another discipline, and 2 hold a Ph.D in both librarianship and a second discipline.

Question 2 asked the referees to indicate the "Type of Library in which you are currently employed," with possible selections from: Academic Library, Special Library, Public Library, School of Library and Information Science, School Library, Consultant/Free-lance, and other. (See TABLE 3) There was a distinct academic orientation among these referees with 45 employed in academic libraries and 33 in schools of library and information science. Representation from other types of libraries was quite limited. Five of the referees came from special libraries, 3 were in the consultant/free-lance category, 8 from public libraries and none from school libraries. Seventeen indicated current employment in an area outside of a library. These individuals worked for vendors and publishers, served on the faculty of a college of medicine, a computer science department, a department of business administration, held a research appointment or were retired.

Twenty (20) of the 28 individuals with Ph.D's in librarianship worked in schools of library and information science. There is, of course, some logic to this since that is the one area for which a Ph.D is virtually a requirement. In fact, 10 of the 28 individuals with Ph.D's in other fields also worked in schools of library and information science. The breakdown in academic libraries came out even with 5 librarianship Ph.D's and 5 Ph.D's in other fields.

Since 73% of these respondents currently worked at an academic library or school of library and information science, one might assume that the motivation to serve on an editorial board would be to help satisfy promotion and tenure criteria. Yet in response to the question "Are you in a situation where serving on the editorial board may strengthen your opportunity for tenure and promotion?" 34 (31%) answered yes and, surprisingly, over two-thirds (75) answered no. Although these responses indicate that nearly one-third can benefit from service on the editorial board, it might be fair to have expected this number to have been greater.

Comparing the responses to this question with the type of library checked in the previous question identified more information. To begin with, 30 of the 34 referees who responded yes worked in either an academic library or a school of library and information science. Forty-five (45) of the 75 who answered no also worked in an academic library or school of library and information science. Five (5) of the no's, however, noted that they already had tenure. This question might have been better worded if it read "Are you now or have you been in the past in a situation where serving on the editorial board strengthens your opportunity for tenure and promotion.

The next question asked, "Are you presently serving on a national library association committee or elected position, such as ALA, SLA, ASIS, MLA, or PLA?" Referees answering yes were asked to name the association. (See TABLE 4) This question hoped to look at the referee's level of activity in professional associations in librarianship. One presumes that high visibility in a professional association equates to playing a leadership role in the field, one of the assumptions we make about referees. For this survey, 94 referees answered yes and 93 provided the name of a national library association.

Question 5 in this section of the survey attempted to gauge the impact of the "Old Boys/Girls Network" on the refereeing process. Some have suggested that it is predominantly the same persons who serve as library directors, at high levels on national associations, and as members of editorial boards. If true, this could have a most serious impact on who and what is published in the journal literature. One can hypothesize that, if certain people serve as members of more than one editorial board, they may exercise too large an influence on the selection process. The question asked "Are you presently serving on the editorial board of more than one journal in librarianship?" to which 28 (27%) answered yes and 77 (73%) no. These data suggest that editorial boards are not dominated by the same individuals.

The next 2 questions sought to measure the referee's activity in the very medium in which he or she is playing such an important role. Question 6 asked the referees to "List the journal titles in which you have published an article in librarianship in the past 3 years?" and asked them to note the number of articles per title, if more than 1. (See TABLE 5) Interestingly, 32 responses were returned blank and many others listed unrefereed journals. On the other hand, a total of 209 titles from 89 different journals were listed. Is it important that referees be active in the field conducting research and publishing the results? If so, we should have expected to see a higher correlation between the number and type of article published by referees.

While the importance of a timely and successful publishing record may leave room for debate, it should be taken as a certainty that referees keep abreast of current research and recent developments in their fields to properly evaluate manuscripts. This is accomplished by attending meetings where papers are presented, through the "Invisible College," and by remaining current with the journal literature. The question in the survey asked "How many journals in librarianship do you regularly read?" Regularly read was defined as "almost never missing an issue." As shown in TABLE 6, (See TABLE 6) a majority of the referees read from 3-6 journals regularly. Does this indicate covering the field extensively or concentrating on a core of journals in a specialized area? With the great number of journals in librarianship alone and the interdisciplinary nature of research in most fields, are 6 journals enough?

CONCLUSIONS

In his review article, "Current Trends in Library Journal Editing," Richard D. Johnson makes a number of relevant points. To begin with, Johnson asserts that overall, the quality of manuscripts has improved in recent years. In addition, librarians have become "more sophisticated and disciplined in the methodologies they use."[24] The result is that

> editors are now receiving a greater number of manuscripts that use more advanced methodologies...[and] need to be more aware of specialization...to

handle and judge various forms of research. If they are not, they must call upon knowledgeable advisors for aid. [25].

This situation raises procedural questions. Are these "knowledgeable advisors" among the referees listed on the masthead or are these outside individuals known to the editor and asked to review a submitted paper because of a recognized or perceived specialty? Are manuscripts in a specialized subject outside the area of the referee "subcontracted" to a "subreferee"? If so, is this known to the editor? What is the impact of such a practice on the editorial process?

Another question that surfaces regards whether or not referees are established scholars in the field. In 1983, Charles Busha discussed what he called "the dichotomy between theory and practice" in library research that has been responsible for the lack of a sound theoretical foundation for librarianship [26]. The interrelationship of theory formulation to the research task has been slow to be fully understood or appreciated in librarianship, although, Busha adds, recent investigative efforts have reflected positive changes [27]. In this study, the numbers provide evidence of the referee's success at publishing an article in librarianship during the past 3 years. Yet, are these articles employing the more sophisticated and disciplined methodologies that Johnson mentioned?

Does the referee system lend any credence to the concept that these reviewers constitute a peer review system? As stated earlier, a basic tenet to the practice of having "authorities" in the field review submitted manuscripts is that these individuals are universally accepted. In this study, it was found that the majority of referees worked in either an academic library (40.5%) or school of library and information science (29.7%). In Paula Watson's study of the affiliation of authors of articles in 11 major journals in librarianship, 44.2% of the authors were affiliated with academic libraries and 20.9% with schools of library and information science [28]. Is this evidence or at least an indication of a relationship? On the one hand, it could signal that there is indeed peer review for authors working in academic libraries or schools of library and information science. On the other hand, it could mean that authors from public libraries, school libraries, and special libraries are not represented in the editorial process.

While this survey found a good deal of interesting information on referees' backgrounds, it also raised a number of new questions. It suggests that additional studies gathering more in-depth information on referees' backgrounds might help answer the questions raised here.

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TABLE 1

CORE LIBRARY JOURNALS

American Libraries

American Society for Information Science. Journal

Collection Management

College & Research Libraries

Drexel Library Quarterly

Harvard Library Bulletin

Information Processing and Management

Information Technology and Libraries

International Journal of Law Libraries

International Library Review

Journal of Academic Librarianship

Journal of Education for Librarianship and Information Science

Journal of Library History

Law Library Journal

Librarianship

Library Acquisitions: Practice and Theory

Library and Information Science Research

Library Journal

Library of Congress Quarterly Journal

Library Quarterly

Library Resources and Technical Services

Library Trends

Microform Review

Micrographics Today

Online Review

Public Libraries

RQ

School Library Journal

School Library Media Quarterly

Special Libraries

Wilson Library Bulletin

TABLE 2

BACHELOR'S DEGREE AND DISCIPLINE

Humanities (47)

History (18)
English/Lit (17)
German (4)
Linguisitcs (2)
Philosophy (2)
French (1)
Art History (1)
Latin (1)
Music (1)

Social Science (19)

Business Admin (4)
Education (4)
Psychology (3)
Political Sci (1)
Social Science (1)
Politics (1)
Internatl Rela (1)

Science (17)

Math (5)
Physics (3)
Science (3)
Chemistry (3)
Biochem (1)
Electr Eng (1)
Biology (1)

Librarianship (11)

MASTER'S DEGREE AND DISCIPLINE

Humanities (12)

Musicology (2)
Linguisitcs (2)
English/Lit (2)
German (2)
History (1)
French (1)
Art History (1)
Latin (1)

Social Science (15)

Business Admin (5)
Education (4)
Sociology (1)
Management (1)
Guidance (1)
American Stds (1)
Political Sci (1)
Geography (1)

Science (13)

Math (3)
Chemistry (3)
Electrical Eng (2)
Physics (2)
Biology (1)
Statistics (1)
Metallurgy (1)

Librarianship (75)

6th Year Degree (3)

DOCTORAL DEGREE AND DISCIPLINE

Humanities (7)

Linguistics (2)
History (1)
Logic (1)
Classics (1)
Slavic (1)
History of Sci (1)

Social Science (12)

Information Sci (3)
Education (2)
American Stds (2)
Communication (1)
Sociology of Sci (1)
Administration (1)
Sociology (1)
Speech Commuic (1)

Science (9)

Physics (3)
Computer Sci (1)
Applied Math (1)
Inorganic Chem (1)
Organic Chem (1)
Math/Philosophy (1)
Metallurgy (1)

Librarianship (28)

TABLE 3

TYPE OF LIBRARY EMPLOYED

45	Academic Library
5	Special Library
8	Public Library
33	School of Library & Information Science
0	School Library
3	Consultant/Free Lance
17	Other

DOCTORAL DEGREE AND TYPE OF LIBRARY EMPLOYED

Type of Library	Ph.D in Librarianship	Ph.D in Other Field
Academic	5	5
Special	0	1
Public	0	0
SLIS	20	10
School	0	0
Consultant	0	1
Other	3	11

TABLE 4

HOLD OFFICE ON A NATIONAL LIBRARY ASSOCIATION

American Library Association (61)

American Society for Information Science (17)

Association for Library and Information Science Education (6)

Medical Library Association (2)

Music Library Association (2)

Special Library Association (2)

Association of Research Libraries (1)

Canadian Association for Information Science (1)

Canadian Library Association (1)

TABLE 5

JOURNALS/ARTICLES PUBLISHED IN LAST 3 YEARS

Journal Title	No. Articles
A. B. Bookman Yearbook	1
Advances	1
Advances in Library Organization and Administration	1
AIBDA	1
American Journal of Psychiatry	1
American Libraries	9
American Medical Association Journal	1
American Society for Information Science Journal	12
American Society for Information Science Proceedings	1
American Theological Association Proceedings	1
ARIST	1
Assist Quarterly	1
Bookmark	1
Canadian Journal of Information Science	1
Canadian Library Journal	1
Cataloging & Classification Quarterly	4
Choice	1
Collection Building	2
Collection Management	2
College & Research Libraries	13
College & Research Libraries News	2
Conservation Administration News	2
Contemporary Education in Psychology	1
Crossroads	1
Current Issues	1
Database	3
EMLS Journal	1
Focus	1
Government Publications Review	1
Hi Tech Libraries	1
Infomediary	1

Information Management Review	1
Information Processing and Management	4
Information Technology and Libraries	4
International Forum on Information & Documentation	1
International Library Review	1
International Journal of Man-Machine Studies	1
ISIS	1
Journal for Education in Library and Information Science	4
Journal of Academic Librarianship	9
Journal of Education Administration	1
Journal of Documentation	1
Journal of Library Administration	2
Journal of Library History	5
Journal of Research in Librarianship	1
Library	1
Library Acquisitions, Practice and Theory	5
Library and Information Science Research	5
Library Journal	11
Library Quarterly	14
Library Resources and Technical Services	4
Library Review	1
Library Software Review	1
Library Trends	7
Louisiana Library Association Bulletin	1
Louisiana Library Association Section Newsletter	1
Manuscripts	1
Medical Library Journal	1
Medical Library Association Bulletin	2
Microform Review	3
NAEARA Clearinghouse	1
Notes	1
OGS	1
Online Review	4
Progress in Communication Science	1

Public Libraries	2
Records Management Quarterly	1
Reference Librarian	3
Reference Services Review	2
Research Strategies	1
Resources & Technical Services Division. Newsletter	2
Revista	1
RQ	3
School Library Journal	1
Scientometrics	2
Serials Librarian	2
Serials Review	1
Social Science Information Studies	1
Social Science, Information & Technology	1
Special Libraries	2
Technicalities	1
Wait	1
Wilson Library Bulletin	5
Women Library Workers Journal	1

TABLE 6

NUMBER OF JOURNALS REGULARLY READ

	0	1-2	3-4	5-6	7-8	9-10	>10	Total
Number	5	10	25	38	12	8	11	109
Per Cent	4.6	9.2	22.9	34.9	11.0	7.3	10.1	

THE ROLE OF PRACTISING LIBRARIANS IN LIBRARY EDUCATION

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Abstract. Why are so few practising librarians involved in the education of our successors? I would like to posit that the main reason for this is the dialectic within the profession - training versus education - which will have devastating results for the future of librarianship if we do not resolve it and become involved with library school education. I will be suggesting ways in which to do this, ranging from library-school internships through teaching courses and becoming involved in research. The relevance of this topic to today's academic librarians is shown in Joseph Boissé's statement of themes for the future "ACRL must also become more active in the area of library education ... We must work with library educators and other associations of librarians in order to design the library school curriculum of the future."

There is a crisis in the field of library/information science which is reflected in the education of our professionals. Hans-Peter Geh, President of IFLA, succinctly referred to this at the annual IFLA meeting last August in England -

> "Can the profession adapt to a rapidly changing social and technological environment and provide the type of librarian that is really needed?"[1]

What is the role of practising librarians in library education today? Very bluntly, it is extremely small. Historically speaking, library education has moved over the years from an emphasis on practice to an emphasis on theory. In the early years of schools of librarianship, the faculty recruited to teach had substantial experience in the field before becoming educators. It is more common these days to recruit solely on the basis of academic qualifications. 'Infected' faculty members who write on library issues, work with libraries, give presentations to librarians, are looked down upon by the administration and often their colleagues.

The debate between a theoretical or practical grounding for library education, as in other professions, has raged for many years. There seems to be a basic agreement within the profession that theory and practice should be integrated. However what is not agreed upon is how to achieve this integration, in what ratio, and what practical experience should teaching faculty have. In 1936, Robert Maynard Hutchins, as President of the University of Chicago, criticized what he saw to be a trend towards vocationalism in higher education. In 1970, ALA stated, "the objective of the master's programs in librarianship should be to prepare librarians capable of anticipating and engineering the change and improvement required to move the profession constantly forward.... The curriculum and teaching methods should be designed to serve this kind of education for the future rather than to train for the practice of the present."[2] Closer to the present in 1985, the Committee on Institutional Cooperation released a publication addressed to accreditation teams reminding them that it was universities and not professional associations that made decisions about curriculum.

It is easy to generalize and say that the viewpoint depends upon which side of the fence it comes from, yet this generalization is not without some basis in fact. In 1986, Susan K. Martin, Director, Milton S. Eisenhower Library, Johns Hopkins University, made an eloquent plea for educators and practitioners to work together to resolve what she called the "chronic tension" between the two - "Educators and practitioners of library and information science have too long operated in a 'we-they' environment. If we are to improve our profession's educational system, the two groups must work together..."[3] Whereas in 1987, when asked how important it was for library school faculty to have practical experience, Leigh Esterbrook, Dean of the Graduate School of Library and Information Science at the University of Illinois, replied, "Well, to be perfectly honest, I don't care a lot about professional experience of the faculty. I care that faculty have a good sense of what is going on in the profession. ... We do have that formal obligation to turn out students who are considered minimally competent in entry level work. We are much more obligated to turn out people who will make a significant contribution to the field over the long run. ... They (the faculty) need to see the forest, but whether or not they can identify the conifers may not be so critical."[4]

All three sides of the educative triangle are dissatisfied with the current status of library education. (1) Students are dissatisfied because their courses seem boring, outdated and either lacking in relevance or too system-specific. (2) Educators are dissatisfied because outside influences are mainly responsible for adjusting the curriculum. (3) Employers are dissatisfied because the graduates of library schools seem totally unprepared for the jobs they apply for, much time has to be spent by library staff in training, and the so-called 'best and brightest' are being siphoned off elsewhere by higher salaries and trendy job descriptions.

One area of library education that this is particularly noticeable in is the teaching of cataloging. There has been much criticism of library schools lately for not preparing catalogers adequately. The role of cataloging and classification in library school curricula

48

has decreased, whereas the complexity of cataloging has increased.

Practising librarians must take an increased role in shaping a resolution to these seemingly unresolvable questions. Firstly, student dissatisfaction must certainly be addressed. It must be remembered that graduate students across the disciplines tend to react the same way about their graduate studies. However, my gut feeling (and my own personal experience) is that this dissatisfaction is much more real than imagined. This deficiency of stimulating intellectual content has been recognized by some innovative schools, and several creative courses have been set up to provide a more invigorating forum for our graduate students. One example is LS5813, 'The Information Professions', at the School of Library Science of Texas Women's University, which uses Plato's The Republic as the 'base book'.[5]

Secondly, the library-school faculty, who face some of the same identity problems that librarians face, have an inability to see where they are going which has nothing to do with the unavailability of crystal balls. Until the library profession as a whole feels it can stand on an equal footing with other academic disciplines, then these dilemmas will not be resolved satisfactorily. In the meantime, life must go on and students must be educated. Research - both theoretical and applied - must be done. As Susan Martin said, "We must recognize that innovation and research take place both in the so-called 'ivory tower' and in the field ... But library innovations are born of necessity and educators must be aware of the products of the working laboratory".[6]

Thirdly, the employers - who in some cases will hire the recent graduate, in other cases will be training the graduate, and who will nearly always have shared the same educative experience as the graduate - why are they not more fully involved with the student, the library-school, and most importantly, with the education of future colleagues and successors? Some of the previously mentioned reasons pertain. Because of image problems on college campuses, there has been a desire to put distance between the library-school programs and the people who work in the library. Faculty members are often unable to discriminate between librarians and support staff. This feeling rubs off on library-school Deans who are less likely to want to involve librarians in teaching courses because it smacks too much of "training". We librarians are also at fault. We tend to undervalue our expertise and abilities. A skilled and seasoned reference librarian should have no problem in conducting a semester long course on reference tools or information sources in a particular field. A cataloger should be able to structure a course which would involve both theory and the practice of cataloging and classification.

The benefits from the use of practising librarians in the teaching of library school courses are enormous. The students are exposed to positive role models who can show the exciting things going on in the profession. The librarian as recruiter counteracts many negative images. The library-school benefits because it immediately steps out of the realm of theory and into the world of experience. Faculty members who have been asked, for instance, by private companies to review or endorse some of their products, might be interested to know how they actually work in a real-life library with real-life patrons. This sharing of information could be the beginning of a close relationship that can result in internships, graduate assistantships, opportunities for publication and a whole gamut of interaction. The library is a laboratory not only for students, but for the library school faculty, who need a proving ground for their research.

One of the prime benefits of librarians teaching courses is the improved image of the librarian. Teaching is something readily understood by the rest of the academic community. At tenure or promotion time, it is something on a vita that equals the other faculty members' job descriptions. You are part of the same club. Your experience with the students enables you to understand classroom issues on grading, cheating, attendance, curriculum content, which were all mysteries before. Your ability to participate in campus-wide governance committees is much improved. You start to talk the same language. Your ability to relate to students is increased. You are part of the wider field of higher education. Your self-image will improve drastically. After the first couple of weeks of total panic, after you have realized how much knowledge you have to share with the students, you will come away from class invigorated by the give and take of discussion, excited because the students are making discoveries under your tutelage. Even the fact that a student discovers the existence of the LCSH Red Books, and learns how to use them, is a major triumph.

Librarians are not strangers to the educative role. Almost everything we do can be described as 'educative'. Team-teaching with a library-school faculty member is a good way to begin one's teaching career. A combination of theory and practice in one course, taught by a theoretician and a practitioner, can provide a very refreshing and relevant experience for the student. It does not have to be the negative experience that many library school faculty are wary of. Students have a right to know and share some practical experiences to which they have not yet been exposed.

There has been a concern that too many librarians teaching for the library school is an incorrect use of scarce library resources. After all, who is running the library if all the librarians are teaching. Yet I personally feel that nothing but good can come of an increased, in-depth relationship between the library school and the library, in the same way that doctors and medical students interact in a teaching hospital. The university library should be able to think of itself as a laboratory to be used by library school students. The pros and cons of this kind of exchange have been carefully documented in an article written about the experience of two librarians in England who were seconded to the Department of Library and Information Studies at Loughborough University of Technology for a year.[7]

Teaching courses is not the only way that librarians can participate in the educative process with the library school. One can become involved with setting up programs in the schools, giving input on curriculum, becoming involved in faculty/student interaction like orientation. These activities promote library cooperation and give one a better understanding of the various client groups. Teaching in other disciplines is a wonderful way to improve the image of the library and the librarians, and to bridge the gap between library and other faculty members.

A slightly different way for a practising librarian to become more involved in library education, is to participate in the accreditation process. Currently, this is governed by ALA - specifically the Committee on Accreditation. There are many differing viewpoints upon the advisability of the accreditation process being handled through ALA, and again on the involvement of practitioners in accrediting programs. I, myself, feel that there is a balance which needs to be maintained, and I would urge that librarians become involved in this process. It is an extremely time-consuming responsibility, not one to be taken lightly, but which will bring many personal and professional rewards. One has the opportunity not only to have input on library school curriculum, but in working to make the role of COA more catalytic, forcing practitioners and educators to work together, promoting an involvement for both sides in theoretical and applied research which will advance the profession and filter back into the classroom.

The educative process does not finish upon receipt of the MLS. We are, each one of us, individually responsible for continuing our own personal educative process. Continuing education is essential for the librarian to remain in a position to further the profession. The practising librarian must be engaged in both sides of the continuing education process - in taking courses that not only keep one abreast and enable one to creatively advance the profession; but also in providing continuing education opportunities for junior librarians.

There are many ways to do this. It is disappointing to see that, for the most part, library schools are sending forth their graduates without any provision for care or watering. Recent ALISE statistics show that library schools have reduced their involvement with continuing education by 20% over the last 6 years, and that 35% fewer people are being provided with the opportunity to take courses.[8] This is happening at a time when technological advances are occuring at an exponential rate. As Darlene Weingand states "... the shelflife of the preservice MLS now stands at approximately five years - and the rate of societal change continually challenges that estimate. Occupational obsolescence is now a very real concern in all lines of work, but it is particularly critical in the information professions ..."[9] Does this mean that (1) librarians are losing the battle to keep abreast of if not ahead of technological change? (2) training and continuing education are provided in the workplace? (3) Continuing education opportunities are being provided elsewhere, such as by local library associations? The answer is all of the above and none of the above. Some librarians are losing the battle, yet others are leading the profession, and in some cases going outside the profession to provide leadership on technological issues. A lot of training is provided in the workplace, and yet the common cry is that there are never enough opportunities provided for staff development, particularly in applications or technology not yet current in the home institution. Many local organizations are very successful in offering continuing education opportunities - both in the larger issues and the more specific technological applications. Librarians are doing a lot of sharing, and natural teachers are coming to the forefront for lack of a formal continuing educational structure.

In April 1988, Dean Richard S. Halsey of the School of Information Science and Policy at the University of Albany, spoke to the Eastern New York Chapter of ACRL on "A Regenerative Curriculum for Academic Librarianship". However, his prescription for the renewal of library education failed to take into account the general implications of the society we live in. Going back to Hans-Peter Geh - it is not just the technological environment which is changing, but the social environment. Curricular revision will be to no avail if we neglect the larger context within which we are working. Former SUNY Chancellor Wharton pointed this out in a speech at the Association of American Colleges in January, 1988. "I believe that the dilemma faced by educators today - in colleges and universities, no less than in primary and secondary schools - goes beyond the relatively manageable issues of curricular structure ... Much of what we find most intractable and disturbing about academic performance, student behavior, and youth values is rooted in fundamental upheaval in the society ..."[10] The Williamson Report, the Conant Report, and now the King Report, are all a testimony to this.

There are signs that this regenerative process has begun, as shown by the "I (internship) for an I (instructor)" program at the School of Library and Information Science, University of Missouri-Columbia; the CLR PETREL (Professional Education and Training for Research Librarianship) Program; the Intern-Scholar Program at UMC; and ACRL President Joseph Boissé's pledge to "work with library educators and other associations of librarians in order to design the library school curriculum of the future."[11] Never has there been a more crucial time for practising librarians to accept more responsibility for the future, by getting involved in the education of the students who _are_ the future.

As Hillel the Elder, a Jewish rabbi living at the time of Christ said, "If I am not for myself, who will be for me? Yet if I am for myself only, what am I?"[12]

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FRIENDS AND FOES: ACADEMIC LIBRARIES FACE THE FUTURE

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Abstract. Academic libraries face the future with both anticipation and anxiety. The world has changed dramatically since the founding of the College Library Section of ACRL one hundred years ago. Traditional values as well as services are under siege in many academic libraries. Automation and the use of the computer have had an enormous impact on academic libraries. Librarians need to be aware of both traditional values and modern technology and use the best of both for their academic libraries.

Currently college students bring to academic libraries a different approach; they want to access and process information rather than study and focus on acquiring subject knowledge. Academic librarians must learn to live with the best from the past and take on what is best from the future so that academic libraries will retain the traditional values that made them what they are while at the same time use the new technology so they will not lose this heritage.

As we celebrate the founding of the College Library Section of ACRL one hundred years ago, we need to reflect on the past, present, and future of academic librarianship and how our profession has changed over those last hundred years, and how much it will still change in the years to come. For many of us, we can reflect on our lives as academic librarians in order to chart these changes. Many of us feel fortunate to have worked as academic librarians, and even eager to continue in this profession as academic librarians. But some of us may feel that perhaps academic libraries have outlived their glories; some of us may want to retire with our memories rather than try to live with the future.

I am an academic librarian, and I am a combination--a traditional librarian with old-fashioned values, and a modern one interested in what technology and the future will bring. As I try to maintain the humanistic values in a contemporary setting, I encourage students to study Latin. I noted with pleasure this item about a Latin teacher in New York city:

"A Latin Teacher for the Ages: Madd est Deus"[1]

When James Maddaloni--Mr. Madd--started teaching at Irvington High School in 1967, 26 students took Latin. By 1975, he had it up to 150, a fourth of the school taking a stone dead language. "Mr. Madd makes Latin fun," said Chris, a student. "I mean, it's not fun translating, but when you understand the stories, it is kind of fun." "If you sit in Mr. Madd's class and it doesn't seem like we're learning alot, but by the end of the year, we have learned alot."

When outsiders hear of Mr. Madd, they all assume he has some super deluxe teaching techniques. They envision a guy running around in gladiator boots, with a plastic sword and a VCR strapped to his belt, making Latin relevant. In truth, Mr. Madd is the most old-fashioned of teachers. He wears a suit every day and keeps the middle coat button fastened. He doesn't believe in field trips. The movie screen in his Room 311 has never been pulled down.

"I make tremendous demands on them," said Mr. Madd, who has a master's degree in classics from Columbia. "The Latin final is 7 dittoes long." His star pupil, Judy Lin, spent four hours finishing it. "She wasn't struggling," Mr. Madd said. "She could have left after three. She just wanted to get 100."

The students know Mr. Madd wouldn't ask them to do anything that he hasn't done. Unfortunately for them, Mr. Madd knows the entire Aeneid by heart, 9,800 lines.

"I have no special techniques," Mr. Madd said. "I try to teach with honesty, sincerity, and dignity. And besides that, I love kids. I can't help it." They know this. His students say they hope they can love something the way Mr. Madd loves Latin. The students also comment: "Mr. Madd hates television and computers and calculators. He makes comparisons to the fall of Rome with America. He thinks too much emphasis is put on sports and not enough on academics."

If asked why Latin, Mr. Madd says "I love its orderliness. And of course, I like to read Virgil in the original." But Mr. Madd isn't the kind of man you give a Rolex watch. So his students started a scholarship in his name for students demonstrating solid translation skills and good school citizenship.

Now that he is retiring, everyone wonders, "where will we find another Mr. Madd?" So, Mr. Madd is helping. He has created a test for prospective Latin teachers. Only 1 of 15 candidates has passed. "They don't know their syntax," said Mr. Madd, not sounding too surprised.

It charmed me to read this and see that one can still find someone with old-fashioned values that loves a "dead language." I myself loved Latin when taking it in school, and this interest led me to libraries and librarianship.

As I think about my profession for these last one hundred years, I think of the many changes that have occurred, and how these very changes are reflected in the various names that my library school has held. I attended the library school at the institution where I work. In 1967 when I graduated, it was called "The Library School." In 1977 the name changed to "The School of Library and Information Science." In 1987 the name became "The School of Information Science and Policy," with the word "library" not even in the title any longer.

And my library school at Albany is no different from others today. Library schools now focus and concentrate on computers and information access, and graduate students must take courses such as: Online Database Searching, Computer Programming for Information, Systems Analysis in the Information Environment, Information Processing, Library Automation, Analysis of Information Populations, and Information Systems and Technology Applications. Gone are the courses I took: The History of Libraries, The History of the Book, Materials in the Humanities, Sources in the Social Sciences, and Historical Children's Literature, and in their places are those courses that focus on access and information, rather than on books and knowledge. The graduate schools of library science have had to change in order to keep pace with the technological advances that have taken place, and the schools have had to adapt to the explosion of information that has transformed our world.

What has happened in library schools has also happened in academic libraries. Libraries use automation for many of the manual functions such as acquiring, cataloging, circulating, and even retrieving the information and materials with online database searching; some libraries have literally been taken over by "The Computing Center." And many other academic libraries have strong connections to their campus computer centers. We do at Albany, and our university division includes graphics, communications, the computing center, and the division is called "Information Systems and Technology" with no hint that the University Libraries lie within. In using computers and other technology, in wanting to get into the "high tech" world and to improve their services to users, academic libraries have been using the new systems. This has been good in many cases, since these systems can do the "donkey work" of academic libraries that was performed manually, and the systems can do this more efficiently and more cheaply than before. But, the new technology has not always been good for academic libraries, and has not always made for better services; it is just one tool, and at times it can be unpredictable and not even a very reliable tool as many academic libraries have experienced when data has been lost or loaded into the wrong system.

Even though there is the necessity of change -- the saying "the more things change, the more they remain the same" is still true. What the new technology and automation have meant to our academic libraries is that there is now concern with access to collections in libraries rather than concern with the collections of materials themselves. We live now in an age of numbers more than words, an age of processes rather than ideas. The printed word itself is under siege as computerized online databases proliferate, and as the payments for electronic networks and utilities replace the book budgets of academic libraries. Computer centers are not only taking over some academic libraries; some are replacing libraries as the centers of the campuses in many instances.

All of this makes me a bit apprehensive in thinking about the future for academic libraries. I grew up believing that just as the college is at the heart of the community, so is the library the intellectual center of the campus. There are both "friends and foes" for academic libraries. Such things as the physical spaces for the books and places to read them, the acid paper that eats up and destroys the books , the vandalism and wreckage by some of our library users, and the environmental factors of heat and light, all take their toll on academic libraries.

But greater that these physical foes are the intellectual ones. I have alluded to the changes in library schools and academic libraries themselves already. There is another, perhaps even greater foe, and that is the attitude and even mindset that students bring with them to their college campuses. Students have been raised in this culture, socially and intellectually. They have become "information processors" rather than "seekers of truth and knowledge." Students want the quick answer that a computer can give rather than the more thoughtful study that comes with long, deliberate, careful attention to a text. E.D. Hirsch in Cultural Literacy,[2] and Allan Bloom in The Closing of the American Mind,[3] both point out that American society is in trouble; they say that the education system simply has not worked.

The more we come to rely on computers for our world, the more our world becomes one of computers. The new generation has become one of information processing rather than knowledge seeking. Our current generation of students has been convinced that computers are essential for upward mobility; these students are serious, and they want to succeed. They focus on what they need to pass examinations, and not on the words of the texts they are reading. In a way, this focus and even mindset is more insidious than outright anti-intellectualism, since these students may also be our best and our brightest. In this type of world, the academic library becomes simply one large data bank with bits of practical information for students to access and process rather than the cumulation of knowledge and the cultural heritage of past generations for students to ponder over.

The friends of the academic library as it faces the future are many: those faculty members (like Mr. Madd) and citizens who still hold to the traditional humanistic values; those grade school and high school teachers and parents who believe that academic programs are important; those institutions of liberal education which call for courses grounded in the humanities; and those sympathetic groups who value and respect the history and tradition of libraries. The cultural mission of academic libraries is more important than ever today; we academic librarians need to reaffirm that mission whereever and whenever we can.

The academic library will have both its friends and foes in the future, and they will have to learn to live comfortably together. The computer is an important tool for libraries and it has changed the information structure for the academic library. There are now thousands of databases to search for information and for materials; these databases can be costly to use and are not always what is needed. The old-fashioned printed tools: card catalogs, books, periodicals, indexes, abstracts, and other documents continue to have integrity and are still quite appropriate and relevant.

Just as we cannot be entirely dependent upon the new, so we cannot rely entirely on the old. In facing the future, the academic library must keep the traditional values of earlier times while living with the new technology of modern times. The academic library needs to be both old-fashioned and on the cutting-edge at the same time, keeping and using the best of both.

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RESEARCH LIBRARIANSHIP:
SERVICES AND SUPPORT FOR FACULTY RESEARCH IN THE 1980'S

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Abstract. Programs of specialized reference service to faculty have not traditionally been incorporated into the regular, on-going programs of library reference departments. The University of Illinois at Chicago has designed and tested a reference service "Demonstration Project," inspired by short-lived, Carnegie-funded programs of the 1930s. This paper compares the two models and explores two questions: "Why have past programs of outreach to faculty members not been assimilated into academic librarianship?" and "Does this 1980s model have a better chance of success?"

Keywords and Phrases. Research librarians. Reference services to faculty. Online computer searching for humanists. Costs of reference service. Carnegie Foundation.

In the early 1930's the Carnegie Corporation of New York subsidized the employment of two "special bibliographic assistants," one in the Cornell University Library and one in the University of Pennsylvania Library. These designated "research librarians" contributed to the research of humanities scholars at their universities with

> purely bibliographical assistance (such as location of pertinent materials in other libraries) and the critical survey and digesting of material on a given topic. In the latter case the research librarian's function was to assess the material and to describe its import in a report.[1]

When the Carnegie grant had been spent, Cornell absorbed the cost of its research librarian for one additional year, and that was the end of the experiment. The Carnegie programs never became the model they were intended to be. While there have been calls in the library literature for more proactive, specially-targeted services to the faculty,[2] these have not been accompanied by reports of established programs, with specially designated librarians. In 1987/88, the University of Illinois at Chicago designed a program, inspired by the Carnegie programs, to demonstrate services to a select group of humanities faculty. The program was implemented and supported quite differently from Carnegie's programs, however. This paper describes UIC's "Demonstration Project," and discusses some of the possible implications of the Project for academic reference librarianship.

The Project designated one reference librarian to act as special liaison to ten faculty members who had been appointed to the University's Institute for the Humanities. The goals of the Project were:

1) to incorporate additional support for faculty research into the Library's on-going programs,
2) to demonstrate to the faculty that Library services and technologies can be both accessible and acceptable to scholars,
3) to introduce to the faculty some of the new bibliographic technologies available,
4) to assess whether a program built with existing resources could be as successful with the faculty as were the Carnegie programs, and yet be maintainable over the long term.

A longer-term objective was to assess the needs for and costs of extending the services designed for the Project to other groups of faculty.

One criticism leveled at the Carnegie programs was that their structures and services seemed exotic, and difficult to duplicate at other institutions. UIC's Demonstration Project was not exotic. Whereas the research librarianships of the 'Thirties were externally funded, the Demonstration Project was internally funded. Whereas the research librarians were hired especially for their programs, the Demonstration Project librarian was a regular member of the Reference Department. Whereas the research librarians offered digesting and reporting services, the designated librarian at UIC did not. She had an undergraduate background in the humanities, but considered herself a bibliographic, rather than a subject, specialist. Her chief role was as mediator between the fellows and the many new bibliographic technologies that have appeared since they began their research careers. She also employed, on fellows' behalf, many complex print finding aids, particularly those outside an individual fellow's area of expertise or those created after his bibliographic habits had been formed.

Since Institute fellows are particularly successful and productive scholars, the Demonstration Project was an opportunity to test the assumption, shared by faculty and many librarians, that established researchers have little to gain from the services of a general reference librarian. Surveys have reported that faculty rank librarians fourth in importance to their information gathering strategies, after tracing footnotes, consulting colleagues, and scanning bibliography.[3] An investigation conducted at UIC shortly before the Demonstration Project started suggests that those librarians faculty do consult tend to be special collections librarians; Institute fellows claimed almost never to need the assistance of a general reference librarian.[4] The aim of the Project was to demonstrate to faculty that although they may succeed admirably without assistance from a general reference librarian, they may be even more productive if they use, when appropriate, the services reference librarians can offer. The aim was not to instruct faculty in the use of formal bibliographic tools, but to raise their awareness about resources (particularly but not exclusively electronic resources) and about the role of a general reference librarian in exploiting them.

The first challenge for the Project librarian was to overcome fellows' hesitations to ask questions. Several fellows told her they "felt stupid" when they sought help at the reference desk. At the same time, many probably felt she would not know enough about their subject to be able to help them. The librarian adopted practical guidelines that seemed to assuage some of the fellows' concerns: she avoided the temptation to become involved in the actual research and interpretation of data, and delivered, simply, bibliographic information which, although sorted and selected, was not digested.

In support of Institute fellows' research projects the librarian verified dozens of citations; ran a computer search for discussions of prison camps in fiction and in the literatures of sociology, political science, criminal justice, and history; traced citations to a seminal article in philosophy; facilitated interlibrary loan requests; identified and retrieved reviews of the literature on the economic impact of slavery (an area tangentially related to a fellow's research); gathered biographical data on a famous Illinois politician and an obscure, seventeenth century European author; compiled a bibliography of bibliographies, union lists, and special libraries' catalogs on early-printed cookery books; gathered vendors' advertisements about storing graphic images in libraries; and verified other libraries' holdings of nineteenth- century, U. S. government documents. In two cases, she prepared extensive documentation and tutored interested fellows in how they might best use, for their current projects, the capabilities of two available online catalogs.

Six of the ten fellows made some use of the services specially offered. Five asked the designated librarian to verify citations; two said they were citations on which they would otherwise have given up. Three fellows accepted extensive research assistance for which (according to one of them) they would not otherwise have thought to ask. The Demonstration Project did raise awareness among the fellows about the availability and potential usefulness of new bibliographic technologies. To judge by the increasing number of requests for assistance as the year progressed, the Demonstration Project also raised awareness among the fellows about the traditional services (verifying facts, identifying sources) the Reference Department is always ready to perform. One of the fellows corroborated these impressions, in a letter to the University Librarian:

> Most faculty members are unaware of the extent of reference services available to them. The assignment of [a librarian's] time to the Institute fellows has educated a number of us to our good fortune as faculty members, for it is my understanding that the kind of services she has rendered me would ordinarily have been available to anyone on the faculty. . . . [I]f education about resource use was the object of [the Demonstration Project], it has been a success. . . . It will certainly hold me as an habituée of the reference section.[5]

The effect of the Project on the Reference Department is noteworthy. The designated librarian has begun to provide more extensive, research-support services to several faculty members outside the Institute because Institute fellows recommended her services to their colleagues, and because the experience of the Project has altered her perception of what constitutes a thorough answer to an advanced researcher's reference question. Other reference librarians say they have become more aware of ongoing faculty research; they are pleased, in turn, that the Demonstration Project has increased the visibility of Reference among the faculty. The Department is enthusiastic about offering more special services to advanced researchers in the future. Library administration is very supportive of the Project and eager to see its services become a permanent function.

The Demonstration Project cost the Reference Department, on the average, slightly more than 4.5 hours per week of the designated librarian's time, over thirty weeks. However, this time was distributed very unevenly: twenty hours might go to the Project one week, but only one hour the next. About three hours per week of the librarian's reference desk duty was filled uncomplainingly by other department members. The Library absorbed the cost of all computer searches done for Institute fellows: $90 to verify citations, and $590 to identify new bibliographic information. Of the six fellows who accepted reference assistance of any kind, two requested extensive computer searches in their primary research areas. The computer search subsidy for Institute fellows was an extremely important part of the Demonstration Project. One fellow wanted to retrieve citations to research that used a particular methodology (almost impossible in the printed indexes) and another wanted to retrieve citations to work done in many disparate disciplines (extremely time-consuming in the printed indexes). In addition, the computer search subsidy allowed the librarian to do some exploratory searches for a fellow who now states that the assistance has beneficially changed the scope of his project.[6] These fellows would not have had a computer search done if it had not been for the Demonstration Project. At an early meeting with all the fellows, it became clear that they had only a vague idea of what electronic databases were, and no idea of what they might be good for. Those who had heard of the service had been dismayed by the cost.

The UIC Demonstration Project met its goals sufficiently well to justify another year of special service to Institute fellows and to suggest that specially extended services to Institute fellows will become a regular function of the Reference Department. Institute fellows who told investigators they had almost no need for general reference service later admitted that the services provided to them under the Demonstration Project had benefited their research. From further contact with the Institute, the Library will be better able to judge whether the 1987/88 fellows' demands on the computer search budget and the designated librarian's time were typical of faculty engaged in research.

Two questions are pertinent to this paper: 1) "Why have past programs of outreach to faculty members not been assimilated into the service programs of university libraries?" and, 2) "Does the model described in this paper have a better chance of long-term success?"

Though the Carnegie research librarians were lauded by the faculty members served, the library profession was severely critical of the programs.[7] Perceived as extrinsic to the primary functions of a university library, mounted outside regular, on-going library operations, the programs also lacked internal library support and were never permanently funded out of a regular operating budget. Programs of outreach service to faculty have not been incorporated into the on-going programs of university libraries, primarily because faculty have not demanded them. Many academic librarians have accepted the assumption that without subject expertise they will be unable to contribute significantly to the productivity of an established scholar.[8] Faculty encourage the library to treat student's service demands as first priority, and have assumed, traditionally, that the library can best serve faculty themselves through the quality and comprehensiveness of its on-site collections. In 1973, Jerold Nelson reported that faculty who might otherwise have appreciated extra, personalized reference services saw those services as an inappropriate drain on local collection funds.[9]

Since it is increasingly difficult for each research library to maintain comprehensive, on-site collections, it is incumbent on libraries to develop programs for faculty that will meet their information needs in new ways: to demonstrate that though on-site collections remain important, other services can meet their needs too--in some cases even more effectively. The Demonstration Project is one such effort. It has succeeded well with the faculty because of several factors in the local and the larger environment. Since Institute fellows were relieved of teaching responsibilities for the year, in order to focus on their research, they were an ideal population for whom the Library could demonstrate research-support services. Perhaps the novelty of their situation (and the interdisciplinary nature of their projects) also made them more likely to experiment with new approaches to gathering information. Several fellows were doing international research, and were pleased to learn that local resources could identify or locate relevant materials held elsewhere. With the growth of electronic utilities such as OCLC and RLIN, scholars may have begun to recognize interlibrary borrowing as an endurable necessity for all research collections, rather than as a testament to the weaknesses of a particular one. Institute fellows were very receptive to "access services."

The program begun with the Demonstration Project is likely to survive longer than the Carnegie programs because it was developed with and retains internal support and internal funding. Whereas success of the Carnegie programs was seen to turn on the performance of two specially-hired research librarians, UIC's Demonstration Project was carried out by a reference librarian already on the staff. In future years, other UIC reference librarians will become involved. The library administration is convinced the benefits of the Project have outweighed its costs: If innovative and inexpensive services will support faculty research while assuaging faculty concerns about the escalating costs of maintaining comprehensive research collections on-site, then the UIC Demonstration Project is one appropriate response to a challenge all academic libraries now face.

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II.
ADMINISTRATION

BACK TO THE FUTURE:
CLOSING THE PERIODICAL STACKS

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Abstract. At Bentley College the library enclosed the periodical stacks and installed a service desk which uses the library's automated system for check-in and check-out. Surveys done both before and after established user satisfaction with the closure. Staffing and space requirements were measured and met, special faculty needs were accommodated. Computer disk space issues, adapting the automated system to handle periodicals check-in, microfilm and newspaper handling issues were resolved. The benefits have been not only user satisfaction and lower microfilm costs but also statistics on periodical use, both by title and by subject.

Keywords and Phrases. Access; Automated library system; Closed stacks; Periodical stacks; Periodicals; Journals; Use statistics.

THE PROBLEM

Back in the beginnings of "the first century," closed stacks were the norm in libraries. By 1954, however, Warren Hicks in his article, "Open or Closed Stacks?"(1) described research he had done establishing the fact that in the previous year (1953), 75% of colleges with fewer than 1000 students had open book stacks; 25% had closed stacks. The prevailing sentiment of the time had become, as he phrased it, "to eliminate as many barriers between the book and the reader as possible." Admirable as this sentiment was, the hard truth is that open stacks in academic libraries have resulted in numerous problems such as misshelvings and rough handling, not to mention widespread theft and mutilation. Nowhere in the library are these problems more noticeable or prevalent than in the periodicals collection.

At Bentley College, a school of 5500 FTE students, library users and staff had long been unhappy about the condition of the periodical stacks. Many items were misshelved or missing, numerous articles were being ripped out, making the entire collection just barely usable. In response, more and more titles were being duplicated with microfilm subscriptions, to the point where in 1987 nearly 50% of the periodical subscriptions were being purchased in both paper and microfilm formats. Not only was this a great strain on the budget, but user satisfaction was just as low with the microfilm format as with the paper due to microfilm's inferior photocopying capability.

The staff decided to do a user survey both to document these impressions and to get a reading on users' acceptance of possible solutions. The survey asked users how they would feel about having A) a closed stack system in which they would have to wait for their materials to be brought to them, versus B) keeping the system as it was then. 85% of the respondents chose A.

THE SOLUTION

In September 1987 the library at Bentley College closed its periodical stacks.

IMPLEMENTATION ISSUES

Manpower. The manpower issue was the first and most difficult one to deal with since the college had recently issued directives limiting the use of student help on campus. Could the Circulation department handle two service points with the current staff available? Would there be any possibility of getting more student help down the road, once the need and the benefits of the new system were clearly perceived by the college? Would our staff be able to survive until then?

Computer Disk Space. The issue of computer memory was potentially equally as expensive to solve as the manpower issue. During the implementation of our Dynix automated system, there had already been a problem with lack of sufficient memory, and a year later the spectre of a similar situation was hanging over the library again, so that the necessity of immediately adding, by rough calculation, another 40,000 holdings records and 3000 bibliographic records was rather daunting. We early on made the decision not to include daily newspapers in our project, and to continue to keep both the paper issues and the microfilm versions as a self-serve operation within the Periodicals Room. Thus newspapers would not generate the enormous amount of barcodes on the system that otherwise would have resulted. Nonetheless, there was no doubt that we would need more disk space added to the system if we went ahead with this plan.

Software Capabilities. Another issue had to do with the capabilities of the automated system. Using it essentially as a periodicals Kardex as well as a periodicals circulation system was pushing it into uses for which it was not quite intended. We basically needed to create bibliographic records onto which the records for each issue or bound volume or roll of microfilm would be added. We wanted to be able to retrieve the records by title and by subject, and we needed internal codes for routing, etc. Careful planning would be required to gain the advantages we hoped for.

Faculty Privileges. A fourth issue was faculty reaction to this restriction on their freedom to browse the periodical shelves. Respondents to our survey had been primarily students, so that faculty sentiment on the issue was largely unknown. However, we knew of at least a few faculty who would resent the restriction, and some way would have to be found to accommodate them.

IMPLEMENTATION SOLUTIONS

Faculty Privileges. The easiest potential problem to fix was that of faculty reaction. In anticipation of the few complaints we would get about restricting their access, it was decided to allow any faculty member who asked to go into the stacks and browse, provided they signed in and out in our Log book. This Log book was set up as much to give us an idea about how many faculty actually used the browse privilege, as to give us some modicum of control over the stacks. So far this solution has proven to be quite acceptable, with no problems either to the faculty nor to our staff. We eventually extended the browse privilege to faculty assistants as well.

Disk Space. The issue of computer memory was, as mentioned earlier, potentially very expensive. We knew that before we even began the service we would have to add about 40,000 barcodes to the system, and then continue to add them at the rate of about 16,000 new ones per year. Our vendor calculated the memory needs for this and confirmed that indeed we would need more than we then had. Fortunately our Computer Center was able to find us another 300-megabyte disk. We decided, however, not to rely totally on the increased memory capacity, but also to try to reduce the number of barcodes we would put into the system and began a major binding project. We purchased a Brodart binding system, which although a bit cumbersome, has worked extremely well for us. All summer long we had our students bind loose periodical issues, and by the end of the summer, we had bound approximately 2500 volumes, the equivalent of about 10,000 barcodes which did not have to be put into the system.

Manpower. The manpower problem was the one that continued to worry us the most. In setting up this periodicals desk we wanted not only a service desk but also a periodicals check-in function which had formerly been performed by the Serials department. Some of the student assistants from the Serials department were to be shifted to the new periodicals desk. In addition, we calculated that the time required to reshelve periodicals under the open-stack system could be cut in half under the closed system, saving many hours of student labor. One full-time staff member in the Circulation department was assigned responsibility for the new service area, but all other Circulation staff members were also to be rotated onto the desk schedule for the new desk so that everyone in the department would be familiar with this area. In addition, we switched 40 hours of student help from the Serials department, and finally were able to get an additional 60 student hours from the college.

Software Capabilities. The technical problems of stretching the Dynix automated system to fit our needs were relatively simple to solve. As it stands now, the system works very well and allows us to generate various reports, although the fact that we cannot generate claims reports means that our claiming procedures are rather slow and haphazard.

BENEFITS

Order in the Stacks. Shelving problems have been almost eliminated, since the users no longer do their own reshelving of issues. Also, there has been noticeably less mutilation, and where there has been mutilation, staff have replaced the missing pages through photocopying from microfilm or through interlibrary loan. In all of 1988 we replaced 108 articles, all but five of which were from issues dated August 1986 or earlier, indicating to us that the rip-out rate for issues received since the stack closure has been drastically reduced.

Reduced Microfilm Budget. Another benefit has been the ability to use the statistical reports on usage generated from the system to make microfilm purchase/drop decisions. In 1987-88 we dropped our film subscriptions for 396 titles that are considered quarterlies. In 1988-89 we dropped an additional 105 film subscriptions that our statistics indicated were not getting used. Over 500 microfilm subscriptions have thus far been dropped, amounting to 60% of our total microfilm subscription list, with a savings of over $6000 yearly.

Use Statistics. One of the problems traditionally with a library's periodical collection is the general unavailability of usage statistics. Those titles that are heavily used are usually more shabby and more frequently mutilated than others, but actual statistics to document use are hard to gather. With the new system we generate statistical reports by title each semester. It is very satistfying to be able to report to the administration that in the past semester the periodicals had a total circulation of over 30,000, on a collection of about 27,000 barcodes. We also create reports by subject, which we use in conjunction with the various academic departments to fine-tune our periodicals subscription list.

User Assistance. An unexpected benefit of the new system has been the greater amount of help available to users of the periodicals, microfilm, and newspapers. Under the old system users had to come to the Reference desk, in another part of the building, to request assistance in finding titles or using the microfilm machines. With the new system, users always have someone in the room to ask for assistance, and to whom they can report missing articles. The Reference staff is thus relieved to spend more of their time on reference activities.

USER REACTION

In a survey conducted one year after closure users indicated their satisfaction with the new system. Of those who remembered the old system, an overwhelming majority preferred the new system. Even of those who were new to the college a majority still felt the new system to be a good one. Only a few respondents felt they had to wait too long for their issues to be brought to them, indicating to us that staffing levels at the Periodicals desk were for the most part quite adequate. Respondents also felt they were getting more of the materials they needed than in years past, and many even added written comments indicating their satisfaction with the new system.

CONCLUSION

The closing of the periodical stacks, which had seemed like a step back into the dark ages of librarianship, has actually been more a moving back into the future. Many libraries we talk to are considering doing the same, or are actually in the process. With the proliferation of periodical literature, librarians are going to have to find methods such as ours to protect their collections, otherwise they will not be able to deliver to the users the materials they need when they need them. To continue to ignore the problem in the name of "freedom of access" is paradoxically unfair to our users.

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ACADEMIC LIBRARIES: A MATTER OF SUPPORT

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Abstract. It is conventional wisdom that academic library funding has been losing ground over the past several years. Results of the present study indicate that library budgets have held their own with the Consumer Price Index and a book price index, but have fallen short with regard to a periodicals price index. What may be more important is that library support has declined as a percentage of the Educational and General (E & G) expenditures of the parent institution. This trend is presented as a warning of possible library funding in the future.

Keywords and Phrases. Funding, economics, library expenditures, institutional support.

Academic libraries of different sizes and different forms of governance have their own management concerns--support of curricula and research, incorporation of technological innovation, dealing with the problems inherent in a political structure. The one thing they all have in common is the need for money. As Daniel Katz and Robert Kahn note, open systems (such as libraries) behave as living organisms and, as such, are dependent upon their environment for survival. Part of this dependency is evident in the need for open systems to import some form of energy from the environment for the continuance of their activities.[1] Because of this phenomenon, libraries require a continual supply of financial resources in order that they may transform that energy into the services and collections which meet the needs of their publics.

Another point of agreement among academic librarians is the conclusion that libraries do not enjoy a level of support perceived as sufficient for the demands and requests made of them. Michael Cooper observes the competition for money within the academic community and writes that ". . . academic libraries are at a difficult juncture. There are many areas that need financial resources and there are severe limitations on available funding."[2] Cooper also compiles data relevant to academic library expenditures for the period 1961 through 1982.[3] These data include total college and university library materials expenditures, total library expenditures per FTE student, and average book and periodical prices (along with indexes). Among other things, the figures illustrate that library expenditures are not performing well compared to other indexes and that expenditures per student (in constant, 1967, dollars) began declining after 1969 and continued the decline to reach a low point in 1981, the last year for which these statistics were given. All of this prefaces the less than salubrious news that results from the present study.

The focus of this study is institutional support for academic libraries for the period 1976 through 1985. Sources for data are Library Statistics for Colleges and Universities for the years 1976, 1979, 1982, and 1985.[4] Over the past several years Library Statistics has had an uneven publication record; the years selected provide consistent data for analysis and a constant interval, so that comparisons can be made. In addition to allowing comparison over time, the information provided in these publications also makes comparisons among different types of institutions possible. Of particular interest here are four-year institutions; data for two-year colleges are not included. The categories used are those adopted by the American Association of University Professors:[5]

> Category I (Doctoral-Level Institutions). These are institutions characterized by a significant level and breadth of activity in and commitment to doctoral-level education as measured by the number of doctorate recipients and the diversity in doctoral-level program offerings.
> Category IIA (Comprehensive Institutions). These institutions are characterized by diverse post-baccalaureate programs (including first-professional), but do not engage in significant doctoral-level education.
> Category IIB (General Baccalaureate Institutions). These institutions are characterized by their primary emphasis on general undergraduate baccalaureate-level education.

In addition to these categories, the differences between private and public institutions are also explored. More than one thousand colleges and universities for which consistent data are available are examined.

One means of determining to what degree college and university administrations support libraries is scrutiny of certain indexes devised to provide indications of budgets and expenditures. An index for library expenditures can be computed from data in Library Statistics, with 1976 equalling 100. Consumer Price Index (CPI)[6] and Periodical Price Index (PPI)[7] data are available from various sources and can be re-computed with 1976 as the base year. Book price information can be used to devise a Book Price Index (BPI).[8] Table 1 presents a comparison of these indexes. The table indicates that academic library budgets performed well against the Consumer Price Index and the Book Price Index. The bad news is that library budgets paled in comparison to the Periodical Price Index. This certainly is not surprising, especially given the number of contributions to the literature dealing with the problem of serial expenditures. The indexes included in the table do accentuate a serious difficulty which library managers must face. They also indicate that the problem is not a new one; differences manifest themselves in 1979 and grow with each successive period. The table shows as well the degree to which periodicals prices outdistance the Consumer Price Index.

It should not be expected that library budgets of different types of libraries would grow uniformly. Table 2 points out the differences in libraries in institutions of different scope and governance. Not only are the expenditures of Type I institutions greater than the others (a mean of $6,962,463 in 1985, compared to $1,360,678 for Type IIA and $370,977 for Type IIB), but the budget index for these doctoral-granting universities is greater at each interval than the more narrowly-focused institutions. Comparing these data with those presented in Table 1 shows that all institutions are failing to match the rise in periodicals prices, but the shortcoming is especially acute with Type IIA schools. That these institutions offer some graduate programs can mean problems for curriculum support. There is also a discrepancy between public and private institutions--in budget index and in expenditures (a mean of $2,703,754 for public schools and $1,010,215 for private).

While these data give an inkling of the level of institutional support for academic libraries, other, comparative, information may provide a stronger indication of the recent history of financial affairs for libraries. Reckoning library support in terms of the percentage of the educational and general (E & G) expenditures of parent organizations enables comparison over time and among different types of institutions. If library budgets are, as Richard Talbot says, "the fiscal reflection of institutional intent" and "a tool for implementation and decision,"[9] then what has been the fate of libraries since 1976? Some hypotheses can be formulated at this point:

H_1 Library support, measured as a percentage of E & G, has declined significantly from 1976 through 1985.

H_2 There have been significant declines over time in support by institutional type and governance.

H_3 For each year, there is significant variance among institutional types and between forms of governance.

Each of these working hypotheses can also be stated as a null hypothesis. The Type I error level is set at .01 for each hypothesis. The data are analyzed using SPSSx, Release 3.0.

Much attention has been paid in the past to the level of library support in terms of expenditures. These hypotheses focus on the piece of the academic pie going to libraries. By way of background, Charles Osburn presents data on support over the years.[10] The percentage grew from 1930 to 1969 and from there through 1976 was reported to be stable at about 4.0%. This stability, demonstrated over an eight-year period, ends with the data gathered for the present study. The mean percentage of E & G expenditures in 1976 for the 1,049 institutions for which information is available is 5.050. This figure declines in 1979 to 4.334% (N=1,050). In 1982 it drops further to 4.037% (N=1,023) and in 1985 the percentage is 3.730 (N=1,077). In order to test the first hypothesis--to determine if the decline is statistically significant--the t-test is applied to pairs of years. The difference between the means in 1976 and 1979 is significant at $p<.01$, as are the differences between the means in 1979 and 1982 and those in 1982 and 1985. Because of this the null hypothesis is rejected. The means and standard deviations are shown in Table 3.

Each type of library mirrors the composite in that the decline in E & G percentage is linear, but the magnitude of decline does vary somewhat. Doctoral-granting institutions begin in 1976 with a lower figure, 4.459%. The decline over time is to 4.004% in 1979, 3.849% in 1982, and 3.780% in 1985. The decline from 1976 to 1979 is significant at the .01 level, but those from 1979 to 1982 and from 1982 to 1985 are not. The lessening of support for libraries at comprehensive (Type IIA) institutions is more precipitous. From 5.371% in 1976, the level dropped to 4.514% in 1979, 4.309% in 1982, and 3.980% in 1985. The declines at each stage are statistically significant at the .01 level. As large as the aforementioned declines are, the falling off for baccalaureate institutions (Type IIB) is even more dramatic. From 5.018% in 1976, support dropped to 4.319% in 1979, 3.921% in 1982, and 3.559% in 1985. These declines are also significant at the .01 level.

The above characteristics of support are similar to those exhibited by libraries of differing forms of governance. Private institutions in 1976 had a mean percentage of E & G expenditures of 4.851. In 1979 the level fell to 4.208%, followed by declines to 3.876% in 1982 and 3.564% in 1985. The falls at each interval are statistically significant. Support at public schools began at a higher level than at private ones in 1976--5.364%--but the decline was just as sure and just as rapid. The percentagefell to 4.520 in 1979, then to 4.282 in 1982 and 3.982 in 1985. Again, these declines are significant at the .01 level.

Only the doctoral-granting institutions are spared significant drops in support, and then only at the last two stages (1979 to 1982 and 1982 to 1985). Even though these declines are not statistically significant, it is important to remember that support did decline. Also, these less-than-significant declines came within a context of significant drop-offs for libraries of all other types and of both forms of governance, and at each interval measured. Table 4 presents the means and standard deviations for the sub-groups noted above.

These data also allow comparison among types of institutions for each year included in the study. The third working hypothesis posits that there are statistically significant differences in levels of support among these institutions of differing focus. Using the Analysis of Variance option of the BREAKDOWN command in SPSSx, one can witness the fact that there are differences that are significant at $p < .01$. When attention shifts from type of governance, the same observation holds true. There are significant differences in percentage of E & G expenditures between private and public institutions for each year. The third null hypothesis is thus rejected.

It is interesting to estimate what the 1985 amounts of library expenditures would have been, had the level of support remained at 1976 percentages. A simple formula can be devised to calculate the estimates of expenditures.

$E = (A/b) \times c$,

where: E = projected estimate of 1985 expenditures,
A = actual 1985 expenditures,
b = actual 1985 percentage of E & G, and
c = 1976 percentage of E & G.

Table 5 illustrates the mean dollar amounts by type and governance, along with the projection based on the previous proportions of E & G expenditures.

The reasons for the decline in library support at all kinds of institutions are matters of present speculation and possible future investigation. It is clear that the financial structures of colleges and universities today are less strong, on the whole, than they were several years ago. Tuition at private schools can only rise so much before there is a reaction expressed in terms of falling enrollment. State coffers can afford the release of only so much funding for public institutions. These factors, however, do not explain the shrinking levels of support for academic libraries. Such phenomena as rapidly rising utilities costs and insurance bills may well contribute to the diminution of library funding. It may also be that higher education is called upon to do more by those both within and without the institutions. Accelerating technological advances can contribute to the more diverse drain on available funds.

The largest question with which one is left after examination of the data presented here is: What does the future hold? Some years ago Warren Haas issued the following warning: "The hard truth is that, despite the validity of the library case, the funds required to continue to meet traditional needs in traditional ways are unlikely to be forthcoming in anywhere near needed amounts."[11] The statistical information offered in this paper is designed to sensitize library managers to future possibilities.

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Table 1
Comparison of Indexes

	Budget Index	CPI	BPI	PPI
1976	100.0	100.0	100.0	100.0
1979	128.6	127.5	108.1	132.1
1982	170.4	169.6	185.7	200.2
1985	212.7	189.0	192.8	266.8

Table 2
Budget Indexes by Type and Governance

	I	IIA	IIB	Private	Public
1976	100.0	100.0	100.0	100.0	100.0
1979	130.6	123.7	125.9	128.0	128.6
1982	176.2	161.0	161.7	167.0	175.2
1985	224.7	195.4	200.7	208.6	220.9

Table 3
Percentage of Educational and General Expenditures
for Academic Libraries

	Mean	Standard Deviation	Number
1976	5.050	1.853	1049
1979	4.334	1.632	1050
1982	4.037	1.337	1023
1985	3.730	1.337	1077

Table 4
Percentage of Educational and General Expenditures
by Type and Governance

	Type I	Type IIA	Type IIB	Private	Public
1976	4.458 SD=1.540 N=152	5.371 SD=1.736 N=336	5.018 SD=1.956 N=561	4.851 SD=1.848 N=643	5.364 SD=1.820 N=406
1979	4.004 SD=1.383 N=161	4.514 SD=1.351 N=339	4.319 SD=1.832 N=550	4.208 SD=1.741 N=628	4.520 SD=1.438 N=422

Table 4 (cont.)

1982	3.849 SD=1.350 N=148	5.371 SD=1.357 N=333	3.921 SD=1.298 N=542	3.876 SD=1.318 N=618	4.282 SD=1.331 N=405
1985	3.780 SD=1.221 N=163	3.980 SD=1.258 N=345	3.559 SD=1.463 N=569	3.564 SD=1.444 N=650	3.982 SD=1.228 N=427

Table 5
Projection of 1985 Library Expenditures
Based on 1976 Funding Levels

	Type I	Type IIA	Type IIB	Private	Public
Actual	$6,962,463	$1,360,678	$370,977	$1,010,215	$2,703,754
Estimated	$8,211,000	$1,836,000	$540,000	$1,375,000	$3,642,000

HOLISTIC LIBRARIANSHIP: AS IT WORKS

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Abstract. In 1981, the University of Illinois at Urbana-Champaign Library embarked upon an experiment referred to as holistic librarianship. The plan, which involved a reorganization of the library, was designed to provide better service to library users. This paper examines holistic librarianship from the three perspectives of original cataloging, public service and staffing. Illinois' holistic model is reviewed to determine which factors have been successful and how closely the model and reality coincide. Recommendations for improving the model as it works at Illinois are proposed.

Keywords and Phrases. Cataloging, holistic librarianship, public service, reference, staffing patterns.

In 1981, the University of Illinois at Urbana-Champaign Library, under the leadership of Hugh C. Atkinson, embarked upon an intellectual as well as a practical restructuring of the library which had its antecedents in the University of Nebraska's dual assignment plan[1], but which Atkinson dubbed holistic librarianship[2]. At the heart of holistic librarianship is the concept that activities in the library should not be organized around basic library functions, but rather around the manner in which materials and services are managed for the benefit of the user.

In the client-centered holistic model, the user rather than the librarian is at the center of the organizational structure, and librarians are engaged in all the professional tasks connected with a subject area. They are intellectually responsible for all the primary functions of librarianship, e.g. reference services, faculty liaison activities, materials selection and collection development, original cataloging, and bibliographic instruction, with a limited number of subject areas[3]. In the holistic model the user is better served because the librarian's focus is upon all aspects of information handling within a subject area rather than upon a single function.

Looking back after several years of experience with holistic librarianship at the University of Illinois at Urbana-Champaign, the question arises, "Does holistic librarianship work?" To answer this question it is necessary to evaluate holistic librarianship from three perspectives: original cataloging, public service, and staffing. The key questions to be considered are: 1) Has holistic librarianship been successful in terms of the quality and quantity of original cataloging produced? 2) Has holistic librarianship improved public service?

ORIGINAL CATALOGING

It is believed that, under the precepts of holistic librarianship, original cataloging is enhanced when performed by subject librarians with specialized knowledge of the subject area. While this expectation has proven to be true for subject cataloging, it is less successful for descriptive cataloging. The quantity of original cataloging at the University of Illinois at Urbana-Champaign has not changed significantly since the shift from a centralized original cataloging department to a decentralized approach. Overall, reported cataloging statistics have remained relatively constant and comparable to the original cataloging statistics produced when the Library had a centralized original cataloging department. Although the Principal Cataloger's internal statistics indicate that productivity in departmental units has never quite reached that of the centralized department, this probably can be attributed to the rigid distinction made by centralized catalogers between copy and original cataloging.

It should be noted that, in the context of cataloging, holistic librarianship was not established to improve cataloging productivity, but to insure that the materials most needed by users receive the highest cataloging priority. The holistic model as practiced at the University of Illinois at Urbana-Champaign abandoned the policy of the centralized cataloging department to set cataloging priorities by type of material (i.e., cataloging all trade books first), in favor of cataloging the materials, regardless of type, which were needed most by the users.

The issue of most serious concern to catalogers and, interestingly, also to public service librarians who must accommodate cataloging in a workload which is already full, is quality control. The belief of some that the success of decentralized cataloging has been limited is based on the concern that the quality of original cataloging records is uneven. Several problems have contributed to this concern.

According to the Principal Cataloger, the quality of cataloging, particularly descriptive cataloging, varies from excellent to poor among departmental librarians. This unevenness may be dependent on any number of variables such as cataloging experience, staff size and workload, the priority assigned to cataloging as compared to public service activities, administrative priorities, and the interest or disinterest among the teaching faculty in cataloging output and backlogs in their departmental library.

It may be true that in the decentralized environment, it is difficult to monitor quality control effectively; whereas, in a centralized department much greater control can be exercised over the consistency and level of quality of cataloging records. Nevertheless, responses from several other academic libraries reveal that the quality of University of Illinois at Urbana-Champaign cataloging records has remained high since the adoption of decentralized cataloging.

Some catalogers believe that a loss of depth in the descriptive cataloging process has occurred. In a large centralized cataloging unit, librarians can interact and consult with one another concerning cataloging issues and problems. In decentralized departmental units, staff who catalog often are isolated from each other, making it difficult to confer and learn from one's colleagues.

Supporters of centralized cataloging departments believe that because the opportunity to discuss common or complex cataloging problems is limited in decentralized situations, the development of a cadre of knowledgeable and skilled cataloging experts is curtailed. Counter to this position is the belief that the centralized environment with its production ethos does not build on subject expertise or an appropriate ranking of cataloging priorities in order to effectively respond to user needs for materials.

A serious concern of librarians from technical and public service areas at the University of Illinois at Urbana-Champaign is the necessity to catalog on a regular basis in order to retain one's skills, particularly those which apply to descriptive cataloging. Cataloging only at designated times of the month can result in repeated relearning of rules and slippage of skills. The potential for loss of cataloging ability may occur in departmental units when individuals are on sabbatical, absorbed by other projects or peak period public service activities, focused on a particular format of cataloging such as theses, or involved in other intensive activities. At times, these and other components of the holistic librarians' workload may detract from cataloging.

Regardless of their proclivity, both catalogers and public service librarians concur that in practice it is difficult to maintain the holistic philosophy that all areas of responsibility--cataloging, collection development, reference, faculty liaison, et cetera--are to receive equal emphasis and attention. It is inevitable that production-oriented cataloging based on quotas will become one of the lower priorities in the decentralized environment. At any particular moment, satisfying the needs of a library user or establishing collection development criteria may be more critical than cataloging a monograph.

During the initial phase of decentralization of cataloging, public service librarians participated in intensive two-week training sessions conducted by the University Library's Principal Cataloger and the Head of the Original Cataloging Department. In the ensuing years, training most often has become the responsibility of cataloging coordinators who are assigned to groups of departmental libraries called councils. These councils are based on broad disciplines such as arts and humanities, life sciences, physical sciences, and social sciences.

The problem inherent in this arrangement is providing for time and continuity in cataloging training. The initial training of new staff members as well as the on-going training of existing personnel may be difficult logistically when administered by coordinators located in separate units. Continuity is hard to achieve, especially in the critical area of giving intense and timely feedback and revision. Immediate evaluation of cataloging output is essential in learning situations if the trainee is to progress at an acceptable rate. Such feedback often is delayed, creating frustration for the learner. The cataloging training program at the University of Illinois at Urbana-Champaign needs further development to resolve these issues.

PUBLIC SERVICE

Implementation of the holistic model has resulted in several improvements to public services. The reallocation of librarians from a centralized cataloging department to public service units provides the opportunity to increase the number of librarians who work directly with patrons. By placing more professionals in public service units, the range of subject areas for which each librarian is responsible is narrowed. Therefore, librarians can become true subject specialists, developing more specialized knowledge and a greater depth of understanding of their subjects. The amount of reference service which can be offered is also increased by virtue of the larger numbers of librarians in departmental libraries.

It is generally assumed that reference librarians are the individuals most helpful to users in interpreting the library's collections and that the card or online catalog is the most important tool in the library. If this is true, then the reference librarian's level of expertise in understanding the catalog and in exploiting its use is of utmost importance in serving users. This depth of understanding of library catalogs is developed better through cataloging than any other process.

Public service librarians who catalog develop a much deeper understanding of the fundamentals, as well as the nuances, of classification schedules, descriptive rules and subject headings. Users benefit in improved reference assistance and instruction from librarians on how to identify appropriate subject headings about their topic, search the catalogs, and interpret the vagaries of accessing resources in a library collection which has been subject to many cataloging changes over the years.

In addition, by handling items during the cataloging process, holistic reference librarians and subject specialists are exposed to materials in their collections earlier in the processing cycle. Their knowledge of individual pieces and the collection as a whole is heightened and reference is enhanced. As a result, users benefit from the increased subject knowledge of librarians.

As was noted earlier, there are peak periods during the academic year when user needs must take precedence over cataloging. This is balanced by the fact that holistic subject specialists who catalog are in direct contact with users and therefore are able to anticipate and respond promptly to the cataloging needs of users.

In contrast to original cataloging, reference training during the restructuring at the University of Illinois at Urbana-Champaign was administered within each unit, rather than on a library-wide basis. Although unevenly produced, original cataloging was governed by a single set of standards, while reference and other public service activities were defined at the unit, not the library, level.

It should be noted that in a true holistic model all librarians must be integrated into the functions of materials selection and collection development. Current staffing patterns in some departmental units at the University of Illinois at Urbana-Champaign distribute these responsibilities among a few professional staff members, thus denying others full participation and professional development in the holistic organization, and diminishing the level of service to the library's users.

STAFFING

Staffing patterns and size of the departmental unit have a direct bearing on the success of the holistic effort. Holistic librarianship has worked well in some departmental libraries and less successfully in others. It generally is effective in units which have at least three librarians and in which a single individual manages and ultimately is responsible for the cataloging workflow, even though other librarians, support staff and paraprofessionals may be involved in cataloging or reference services. In these units it is possible to produce high quality cataloging in a timely fashion and effectively carry out quality public services. Such arrangements, however, may not always be true holistic environments in which, within a specific subject speciality, librarians participate in a full range of professional activities from cataloging and reference service to collection development and faculty liaison duties. Instead, professional responsibilities may be based on library functions, with an individual librarian focusing primarily on a single activity such as original cataloging or reference.

The concept of holistic librarianship is put to the greatest test in smaller departmental units in which staff members, perforce, must work in a truly holistic manner. In these units, there may be considerable variation in managing and assigning responsibility for cataloging and reference activities. The essential component for success in most of these units appears to be the existence of a strong support staff who liberate the professional staff from many mundane tasks to accomplish holistic objectives.

An examination of professional responsibilities in the various departmental libraries at the University of Illinois at Urbana-Champaign reveals that while most units are practicing holistic librarianship, it has not been universally implemented. As previously noted, units which have only one librarian have no alternative short of refusing to participate in a given activity such as cataloging. In some units with more than one professional variation, the most noticeable being assignment of original cataloging to one individual, usually an assistant librarian. To a lesser degree, some librarians are not assigned collection development or faculty liaison activities.

Neither veteran catalogers nor public service librarians consider these variations to be negative variables. Rather, it is thought that they provide mechanisms for fully utilizing the talent and resources of the entire library staff in both public service and cataloging areas. It, however, should be understood that these variations, even when they lead to increased productivity are not truly holistic librarianship, but microcosms of the old paradigm of function-oriented librarianship.

CHANGES FOR THE FUTURE

Several suggestions have been put forward to modify and improve the organization of the University of Illinois at Urbana-Champaign Lirary as it is defined within the holistic paradigm. It has been suggested that cataloging in units that receive fewer than ten items a month be channeled to a departmental library which has a larger staff with stronger cataloging skills, thus circumventing the problem of loss of skill among librarians who catalog infrequently.

Another recommendation is to centralize descriptive cataloging for all departmental libraries. It is thought that this would be more effective in terms of productivity and quality. Professional staff in all departmental units would continue to do subject heading and classification work, while descriptive cataloging would be accomplished centrally.

It has also been suggested that the current cataloging model be retained with the addition of a cataloging coordinator to supervise original cataloging in all departmental libraries. The primary responsibilities of this position would be cataloging training for all staff in departmental units, review and revision of cataloging copy, and consultation with staff concerning cataloging problems.

In addition, a means of keeping holistic librarians abreast of changes in cataloging policy, e.g., L.C. Cataloging Service Bulletin, AACR2R, and other tools, needs to be established.

A Cataloging Policy Advisory Committee chaired by the Principal Cataloger has been created in the University of Illinois at Urbana-Champaign Library to address this problem and other cataloging policy issues.

A series of improvements concerning public service aspects of the holistic model have been suggested also. It is essential that selection of professional personnel be made with a commitment to holistic librarianship. The previous practice of hiring primarily on the basis of functional strengths in cataloging or reference must be abandoned if holistic librarianship is to succeed.

In addition, the training program for staff who perform public service responsibilities must be enhanced and codified. In appropriate areas of public service such as reference, bibliographic instruction and online searching, training must be developed at the institutional rather than the unit level in order to provide a consistently high level of service to users.

As has been noted, the holistic model as practiced at the University of Illinois at Urbana-Champaign Library does not conform exactly to the theoretical model. Changes and adaptations have occurred and will continue to occur as the library responds to its users in what it hopes are the most effective ways possible.

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COST ANALYSIS OF LIBRARY SERVICES AT VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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Abstract. This paper is a report of a cost analysis done at Virginia Polytechnic Institute and State University Libraries, Blacksburg, Va. Our goal was to determine costs for basic services and identify which were appropriate to offer in a fee-based service. Like most libraries, we had never done a comprehensive analysis of the budget. In this study every dollar of the budget, including overhead and administrative salaries, was assigned to one of the services or functions of the library. Using data from FY 1986/87 we assigned costs to the acquisition of a volume, circulation and shelving, interlibrary loan, reference desk transactions, storage and retrieval of materials at the off-campus facility, etc.

Inevitably, a major task like the analysis of a 7+ million dollar budget unearthed problems such as incomplete or inadequate statistics, shifting costs due to a major reorganization, etc. These problems, as well as the results of the analysis, are presented. The paper also highlights the pay-offs associated with a comprehensive library cost analysis.

Keywords and Phrases.

°Cost analyses
°Library services
°Shelving - costs
°Interlibrary loan - costs
°Reference costs
°Storage costs

The impetus for the cost analysis of library services at Virginia Polytechnic Institute and State University (VPI & SU) occurred in September 1986 when the Vice President for Information Systems asked the Library Director to identify services for which the Library could charge fees to private companies. The Vice President was also interested in learning what it costs the Library to provide these services, in projecting costs for proposed services, and in how U. S. Office of Management and Budget (OMB) Circular 21[1] affects inclusion of library costs in research grants. OMB Circular 21 revision may make it necessary (or desirable) for the Library to consider direct costing methods for services in support of research grants. The Library Director appointed the Task Force on Fees for Library Services to study these issues and this paper reports on results of the eighteen month project.

The Task Force reviewed current literature on the subject of library fee-based services and cost analyses and acquired brochures from libraries which have well-known fee-based services. Among the libraries investigated were Rice University, Georgia Tech, and University of Michigan. These information sources were used to develop an initial list of services for which we could (and in some cases already did) charge fees. The obvious question was, how did fee-based services determine their fee schedules? Fortunately, just as we were wrestling with this question, MITS (Michigan Information Transfer Source, a University of Michigan enterprise) sponsored the "Second Conference on Fee-based Research in College and University Libraries."[2] A Task Force member attended this conference and was able to return with useful information as well as invaluable personal contacts.

One of the papers delivered at this conference dealt with starting a fee-based service at George Washington University. They conducted a survey of costs associated with their library services before setting fees.[3] Most of the other programs, however, either looked at fees their libraries were already charging or estimated new fees by calculating personnel costs. Generally, these fees underwent revision in response to demand. In other words, they made an educated guess. However, each of the fee-based services discussed by the Task Force is in a large metropolitan area and has a readily identifiable market in which they tested their fees. The Task Force recognized VPI & SU does not have a clearly defined market and that it would be inappropriate to base our fees on those of other libraries. Therefore, we decided to take the longer, more laborious route of determining actual costs for specific library services. This would allow us to set our fees on a cost recovery basis.

Basic decisions regarding what should be included in the cost analysis were made by the Task Force at the outset of the project. For example, since the value of the existing collection is enormous (some estimates as high as $100,000,000.00) we did not include replacement costs in our calculations. Instead, we decided that expenditures for acquiring and maintaining the collection over a fiscal year more accurately reflects the cost of providing access to the collection. This approach also fit our philosophy that the costs of acquiring, shelving, and retrieving materials in today's market, not the inherent intellectual value of the items, is more appropriate to use as a basis for determining fees. Also, since the primary purpose of the Library is to provide a comprehensive research collection to the faculty, staff, and students of VPI & SU, it was adequate to define costs in a global sense. In other words, we did not feel it necessary to take into account specific cost factors such as price differentials for science vs. humanities materials.

Once the decision was made to identify real costs, the Task Force re-examined the list of services compiled at the outset of the project. Each of these services was broken down into its various components. For example, we identified each step and each group or individual involved in acquiring a book from the initial request to the point at which it is placed on a public shelf for the first time. At this stage in the project, the Library Director solicited the help of the University's Office of Institutional Research and Planning Analysis to translate our ideas into cost data. Institutional Research staff interviewed library managers for the budget figures, personnel allocations and percentages of staff time spent in various tasks. Applying standard accounting practices to this information, Institutional Research calculated the costs of providing library services and produced a report including "bottom line" figures with a breakdown of expenditures for eighteen library functions or services. Perhaps more importantly, they set up computer programs which can be used in the future to replicate the study. Their methodology attributed the entire library budget (over $7 million in FY 1986/87) to one of the service areas, and calculated university overhead costs. Therefore, if the library had charged its clientele for each of the services provided, it would have recovered all costs plus university overhead for FY 1986/87. This information will be especially useful if we start charging direct costs in support of research grants.

It is important to note that during FY 1986/87 the library underwent a major reorganization. Jobs changed, positions shifted from one department to another, new positions were created and existing positions were eliminated. These changes made it extremely difficult to attribute salaries and wages for mobile individuals and positions to fixed tasks. Therefore, the Task Force is reluctant to have this data viewed as "gospel." Nevertheless, the Task Force members were struck by how closely the figures matched dollar amounts we had intuitively associated with some services (i. e. interlibrary loan and photocopy).

The final report of the Task Force proposed a fee structure for providing library services to the private sector.[4] The focus of this paper, however, is the actual costs incurred in providing library services in a medium sized ARL library. The authors selected for discussion: 1) acquiring and initially shelving a volume, 2) interlibrary loan, 3) reference desk transactions, 4) library instruction, and 5) off-campus storage and retrieval of materials as being most representative of traditional library costs.

The costs of these services at VPI & SU are shown in the Appendices of this paper. To understand these figures, some terms must be defined.

Direct Variable Costs - those costs directly attributable to a department or service and variable in so far as they differ according to the basis of measurement.

Direct Fixed Costs - primarily departmental general operating funds (including supplies, printing, communication services, etc.)

Total Direct Costs - sum of direct variable and direct fixed costs.

Library Overhead - Costs not traceable to individual departments which include certain operating funds plus salaries and wages paid for activities that support the total library operations. These include administration, business services, postage, equipment, telecommunications, etc. Library overhead was allocated proportionally by the number of full-time equivalent employees in the department or subunit.

Indirect Departmental Costs - sum of "Total Direct Cost" and the allocated library overhead.

(Definitions taken from Institutional Research's report to the Task Force pgs. 3 - 4)

Appendix I "Total Cost to Purchase and Shelve a Volume" provides a summary of data gathered on collection development, acquisitions, and cataloging of monographs and serials. Collection development costs reflect the time spent by librarians and support staff selecting materials. Acquisitions costs include labor, binding and contractual services as well as the actual cost of the materials. Cataloging costs are predominantly salaries and wages, but also include OCLC charges. The reader should note that no distinction was made between serial and monographic cataloging costs.

While Appendix I is a summary of data from different library units, the other Appendices cover discreet library activities. "Interlibrary Loan" (Appendix II) includes data on both lending and borrowing. A distinction was made between processed and filled requests. Unfilled requests were included in the processed category because they involve time and effort similar to filled requests. The study confirmed our sense that fees we currently charge for interlibrary loans are less than cost recovery. While this is consistent with the University's mission as a land-grant institution, the Library Administration may now choose to alter the fee schedule based on this data.

The reference desk is staffed 102.5 hours per week. "Reference Desk Transactions" (Appendix III) translates the portion of Reference Librarians' time spent at the desk into costs. The Department contains costs by employing graduate assistants to help during peak periods and late night hours. The Appendix also exhibits an interpretation of the statistics recorded for patron interactions. It should be noted that no differentiation is made between reference and directional questions in the statistics actually kept at the desk. Therefore this breakdown is based on an educated guess by the Department Head.

"Library Instruction" (Appendix IV) illustrates group bibliographic instruction. The majority of these sessions were orientations for new faculty, staff, and students or campus visitors. We made no distinction between research seminars and Freshman composition classes because our statistics were not kept that way. These figures take on a new significance in light of an anticipated increase in demand for the service due to the University's conversion to a semester system.

In 1976, space constraints forced us to expand to an "Off-Campus Storage Facility" (Appendix V), but this is the first study of costs involved in storing and retrieving materials. As expected, remote storage is relatively inexpensive. However, we were dismayed to learn how expensive retrieval is. This information will certainly affect the selection of materials sent to storage in the future.

The full study included many cost centers in addition to those discussed above. Readers might be curious about the costs for circulation ($ .76/book), reserve transactions ($1.19/item), shelving ($ .15/item) and literature searches ($84.90/session, including database costs). Researchers interested in more information may contact the authors.

Even though the initial charge to the Task Force involved identifying and setting fees, the information compiled has been useful in other ways. For example, when Virginia's Center for Innovative Technology solicited the Library's cooperation in a grant, we knew approximately what it would cost us to participate. Earlier this year the Library needed to prepare a supplemental budget request and the figures were useful not only to document operating expenses, but also the cost-effectiveness of our operation. We anticipate even more applications in the future especially after the study has been replicated.

The efforts of the Task Force have been recognized in a letter from the Vice President for Information Systems who states

> "...the initial cost material has made a compelling case for not increasing off-site storage, but rather, beginning the planning process for expanding the on-campus library. Cost information from the study has also been instrumental in convincing some of the skeptics of the effectiveness of our Library operations and was instrumental in the pitch we made to the Legislature for an increase in Library funding."[5]

The authors hope the full study will be replicated in the near future. This second effort will produce more reliable data due to organizational stability, better statistics, and recommendations resulting from the initial study.

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Appendix I

TOTAL COST TO PURCHASE AND SHELVE A VOLUME
FOR YEAR ENDED JUNE 30, 1987

MONOGRAPHS:

	DIRECT VARIABLE COST	TOTAL DIRECT COST	DIRECT PLUS INDIRECT DEPART-MENTAL COST	ACTUAL FULL COST
COLLECTION DEVELOPMENT	$ 6.96	$ 7.43	$ 9.65	$10.60
ACQUISITIONS				
COST OF MONOGRAPH	42.39	42.39	42.39	42.39
LABOR AND BINDING	8.80	8.94	12.12	13.48
CATALOGING	23.90	24.40	35.14	39.75
TOTAL COST TO PURCHASE AND SHELVE A MONOGRAPH VOLUME	$82.05	$83.16	$99.30	$106.22

SERIALS (and periodicals):

	DIRECT VARIABLE COST	TOTAL DIRECT COST	DIRECT PLUS INDIRECT DEPART-MENTAL COST	ACTUAL FULL COST
COLLECTION DEVELOPMENT	$ 6.96	$ 7.43	$ 9.65	$ 10.60
ACQUISITIONS				
COST OF SERIAL	115.70	115.70	115.70	115.70
LABOR AND BINDING	10.13	10.27	13.45	14.81
CATALOGING	23.90	24.40	35.14	39.75
TOTAL COST TO PURCHASE AND SHELVE A SERIAL VOLUME	$156.69	$157.80	$173.94	$180.86

Appendix II

INTERLIBRARY LOAN
FOR YEAR ENDED JUNE 30, 1987

NUMBER OF LOANS MADE:	PROCESSED	FILLED
REQUESTS RECEIVED FROM OTHER LIBRARIES	29,969	16,049
ITEMS REQUESTED BY VPI & SU PATRONS	4,297	3,355
TOTAL ILLs PROCESSED	34,266	19,404

DIRECT VARIABLE COSTS	TOTAL COST	COST/ILL PROCESSED	COST/ILL FILLED
LABOR	$62,195		
FRINGE BENEFITS	13,982		
OCLC CHARGES (*)	4,275		
BORROWING COSTS	4,957		
DIRECT VARIABLE COST PER ILL	$85,409	$2.49	$4.40
DIRECT DEPARTMENTAL COST ALLOCATION	$13,287	$0.39	$0.68
DIRECT DEPARTMENTAL COST/ILL PROCESSED		$2.88	$5.09
LIBRARY OVERHEAD ALLOCATION	$56,317	$1.64	$2.90
INDIRECT DEPARTMENTAL COST/ ILL PROCESSED		$4.52	$7.99
UNIVERSITY OVERHEAD ALLOCATION	$24,128	$0.70	$1.24
FULL COST PER ILL PROCESSED		$5.23	$9.23

(*) BASED ON 4% (DETERMINED THROUGH ACTUAL SAMPLE) OF TOTAL CHARGES.

NOTE:
1. PHOTOCOPY FEES OF $5,743 PAID BY REQUESTING LIBRARIES WERE NOT INCLUDED.
2. COST PER ILL FILLED COULD BE INCREASED BY $0.15 AN ITEM DUE TO RESHELVING REQUIREMENTS, AND $0.05 PER PAGE FOR PHOTOCOPYING.

Appendix III

REFERENCE DESK TRANSACTIONS
FOR YEAR ENDED JUNE 30, 1987

	DIRECTIONAL	REFERENCE	WEIGHTED AVERAGE
NUMBER OF DESK TRANSACTIONS*	44,678	44,677	89,355
BREAK DOWN OF DESK TIME (in hours)**	745	1,943	2,688
ALLOCATION BASIS	28%	72%	100%
DIRECT VARIABLE COSTS:			
LABOR			$288,278
FRINGE BENEFITS			70,402
TOTAL	$99,361	$259,319	$358,680
DIRECT VARIABLE COST PER TRANSACTION	$2.22	$5.80	$4.01
DIRECT FIXED DEPARTMENTAL COST ALLOC.	$7,525	$19,639	$27,164
DIRECT FIXED DEPARTMENTAL COST/ TRANSACTION	$ 0.17	$ 0.44	$0.30
DIRECT DEPARTMENTAL COST PER TRANSACTION	$2.39	$6.24	$4.32
LIBRARY OVERHEAD ALLOCATION	$35,685	$93,134	$128,819
LIBRARY OVERHEAD COST/ TRANSACTION	$0.80	$2.08	$1.44
INDIRECT DEPARTMENTAL COST PER TRANSACTION	$3.19	$8.33	$5.76
UNIVERSITY OVERHEAD ALLOCATION	$15,289	$39,901	$55,190
UNIVERSITY OVERHEAD COST/ TRANSACTION	$0.34	$0.89	$0.62
FULL COST PER TRANSACTION	$3.53	$9.22	$6.38

* BASED ON 50% OF DESK TRANSACTIONS BEING DIRECTIONAL, PER REFERENCE DEPT. HD.

** BASED ON 1 MINUTE PER DIRECTIONAL DESK TRANSACTION, PER REFERENCE DEPT. HD.

Appendix IV

LIBRARY INSTRUCTION
FOR YEAR ENDED JUNE 30, 1987

	INDIVIDUALS	GROUPS
NUMBER INSTRUCTED	5,955	253

DIRECT VARIABLE COSTS	TOTAL COST	COST PER INDIVIDUAL	COST PER GROUP
LABOR	$47,886		
FRINGE BENEFITS	10,979		
TOTAL	$58,865	$9.88	$232.67
DIRECT FIXED DEPARTMENT ALLOCATION	$4,123	$0.69	$16.30
DIRECT DEPARTMENTAL COST PER TRANSACTION		$10.58	$248.96
LIBRARY OVERHEAD ALLOCATION	$19,553	$3.28	$77.28
INDIRECT DEPARTMENTAL COST PER TRANSACTION		$13.86	$326.25
UNIVERSITY OVERHEAD ALLOCATION	$8,377	$1.41	$33.11
FULL COST PER TRANSACTION		$15.27	$359.36

Appendix V

OFF-CAMPUS STORAGE FACILITY
FOR YEAR ENDED JUNE 30, 1987

	HOUSED	REQUESTED
NUMBER OF VOLUMES	200,000	9,988

DIRECT VARIABLE COSTS	TOTAL COST	COST/VOLUME HOUSED	COST PER REQUEST
LABOR	$14,892		
FRINGE BENEFITS	2,573		
TOTALS	$17,465	$0.09	$1.75
DIRECT DEPARTMENTAL COST ALLOCATION	$ 1,107	$0.01	$0.11
DIRECT DEPARTMENT COST		$0.09	$1.86
LIBRARY OVERHEAD ALLOCATION	$ 4,693		
BUILDING RENT	51,000		
UTILITIES AND CUSTODIAL	7,000		
SUBTOTAL	$62,693	$0.31	$6.28
INDIRECT DEPARTMENTAL COST		$0.41	$8.14
UNIVERSITY OVERHEAD ALLOCATION	$ 2,011	$0.01	$0.20
FULL COST		$0.42	$8.34

WHO'S IN CHARGE HERE, ANYWAY?

Constance H. Corey
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Abstract. Dramatic changes have been occurring in libraries during the past several years, and more are envisioned. This has to be one of the most exciting times in which to be an academic librarian. Why, then, are we confronted with so many disgruntled colleagues? What has happened to the previous satisfaction with this best of all possible worlds? And what can we do to turn the tide, as indeed we must? In the absence of an Ann Landers for librarians, the answer, it would appear, lies within ourselves. Perhaps it is time to act on that conviction.

Keywords and Phrases. Attitude, Image, Librarians, Managers, Profession, Professional.

INTRODUCTION

Those of us who work/toil/slave in and commit our hearts/souls/minds to academic libraries must have a good reason for it, and it is certainly not riches of the monetary sort. But I submit that, somewhere along the way, something has been lost, and we are the poorer for it (no pun intended). This paper concerns large academic libraries, for it is with them that I am most familiar, but it could as well have meaning for smaller institutions.

Those of you who will admit to being forty-plus can undoubtedly remember the simpler times when collections were smaller, staff members all knew one another, organizations were flatter, the work pace was slower, and the "fully automated library" existed only in pipe dreams and the exotica of science fiction. Some of you long for those days, or know someone who does. Life was a merry-go-round.

And what of those same libraries today? Collections and staff size have ballooned. Organizational structures have become more hierarchical and impersonal. Change is a constant companion; service demands are sky-rocketing; systems have become increasingly sophisticated; workloads have escalated; the work pace has become frantic; technology--wonderful, frustrating technology--is rampant. And people are beginning to say, "Stop the world. I want to get off." Life is a roller-coaster.

Are any of the following familiar to you? "I don't know half the people who work here." "I haven't seen the director in months." "They don't care about me." "She's always in meetings." "I'm burned out; I just don't care any more." "Obviously, I'm not worth much, or they'd increase my pay." "I just got used to the online catalog and now they've ordered CD-ROM. What do they think I am--an automaton?" "My opinion isn't worth a hill of beans." "I just hate coming to work in the morning." "Nobody understands me." "I'm just a librarian." "I don't get no respect." (Well, perhaps someone else said that.)

The literature, as well as the library world, is replete with explanations and excuses for the malaise symbolized by the comments above. For example: The library schools are at fault for not producing better prepared professionals. Librarians are made managers without the requisite training. Leadership is a scarce and vaguely understood commodity. Managers are more concerned with budgets than with people. Change is impossible in bureaucracies. There has been too much change and too little nurturing. Salaries are too low. And, of course, the public image of librarians is negative, unfair, uninformed and unwarranted. The list is endless.

How did we arrive at this sorry state of affairs? Whatever happened to the twinkle in your eye and the lilt to your step when you earned your "terminal degree" (surely, someone can come up with a better expression than that), prepared to conquer the world or at least to enjoy the scholarly life while shedding some light along the way? I humbly submit a few theories, along with the warning that I generalize and exaggerate for effect, provocation and the purposes of debate, as well as the caveat that I am not describing nor maligning any one institution or group of librarians (namely, that nor those with which and whom I am associated).

THEORIES

The theories? That librarians, as diverse as they are, are a special breed of cat: sleek, sensitive, intelligent, sensitive, curious, sensitive, dedicated, sensitive, humble and--did I remember to say it?--sensitive. That librarians are so concerned with their public image that they tend to reinforce rather than overcome it. That librarians have reached "the ultimate stage of deglutition" as far as change is concerned. That library managers have failed in their responsibility to those in their charge. And that a return to normalcy and optimism is essential if we are to survive as a profession and as professionals. What has happened, I think, is that our innate sensitivity has interfered, in an unfortunately negative way, with our ability to act professionally and, thereby, to achieve the respect we inherently believe (and are right in believing) that we deserve.

DISCUSSION

Have you ever noticed that librarians tend to be self-deprecating? They see the poor public image, so often depicted--as well as lamented--in the media, and they believe it! Well, of course, they don't really believe it, but they do complain a lot about it. Have you ever wondered what we could accomplish if the same energy that is expended on the concern with self-image were instead focused on changing the image? One writer has suggested that "The real question is why are we so determined to be known as professionals? Why can't we simply get on with the job at hand and stop worrying about what people call us?"[1] On the other hand, writing in the first issue of The American Library Journal more than one hundred years ago, Melvil Dewey said, "The time has at last come when a librarian may, without assumption, speak of his occupation as a profession. And, more, a better time has come...The best librarians are...positive, aggressive characters, standing in the front rank of the educators of their communities, side by side with the preachers and the teachers."[2]

Unfortunately, many librarians do not consider themselves "positive, aggressive characters." Rather, them emphasize their non-aggressive attitudes and thereby occasionally wallow (albeit unintentionally) in self-pity. In my observation, librarians sometimes also tend to blame others, rather than themselves, for the predicaments in which they find themselves. For example, a new administrator arrives in the library, armed with a management style that is foreign to the territory. Is staff reaction one of openness and the challenge of intrigue? Hardly. Rather, it is one of gridlock, enmity, antipathy. It is not, "Well, what have we here? Let me see how I can best work with this individual to the advantage of the library and my own peace of mind." Instead, it is, "Well, s/he sure fooled us during those two days of interviews. I don't like her/his style, and I am going to let her/him know it. This is going to make me very unhappy, but it's her/his fault, not mine." Is this a problem of self-perception or one of self-reluctance to accept responsibility for one's role in the management of the organization?

When my father was a fraternity pledge at the University of Illinois, he was required to respond to the offer of a second helping of food with the statement, "Thank you, sir. No thank you, sir. I have reached the ultimate stage of deglutition." I think that's where we find ourselves today as the result of too much change in too little time. It has put a strain on everyone, and those of us who are managers have not done all that we could to ease the strain. The pace is so fast, we forget, not only to stop and smell the flowers, but also to help the flowers grow--to nourish and protect them.

If librarians want to be treated like professionals, why do some of them dress the way they do? If I walk into your library and see you decked out in jeans and a tee shirt, have I not the right to assume that you are probably a student? Is it any wonder that patrons think that everyone who works in a library is a librarian--or that librarians are clerks--when we so willingly add to the confusion?

SOLUTIONS

If librarians today are unhappy, and many are, what is the solution? Three scenarios come to mind. First, we could try to return to the simpler life by limiting collection size, reducing library hours, closing the stacks, and turning the terminals into flower pots. But that is neither feasible nor desirable. Second, we can continue as we are, becoming more divisive, suffering burnout, working at cross-purposes, enduring poverty, feeling sorry for ourselves, failing to communicate, and watching with deepening sorrow the dwindling numbers of bright entering professionals. But that is self-defeating and destructive.

Third, we can embrace the future and the wonderful opportunities it offers by taking positive action in the interest of self-help before it is too late. One suggestion is to work cooperatively with library schools to ensure that the curriculum includes studies, practicums or at least colloquia on the topics of management, leadership and, perhaps most importantly, the politics of librarianship. (Like it or not, politics are always involved, and we should not obfuscate the issue.) In my state, for example, where there is one accredited library school, the director recently asked for a standing committee of the state library association to be formed, to advise him and his faculty on the direction that the school should take. He specifically did not want a self-appointed advisory committee of yes-persons, but rather an independent body that would tell him what it collectively thinks.

We can also provide better training and stewardship both for those entering the profession and for those already on the staff. Some universities have already engaged in extensive training and/or mentoring programs for managers and would-be managers. Those which have not, should.

Finally, we can stop blaming others for our predicament. Whatever it is that you think the institution ought to be doing for you that it is not, remember this. You are the institution. We are the institution. Perhaps we could start by remembering that, "We have much to be proud of in our profession and need to have a positive, optimistic attitude. We must be bold, innovative and resourceful. A new Golden Age is ahead. We have a bright future."[3]

CONCLUSION

Herbert White has written, "To have any hope of convincing others, we must begin with a regard for ourselves and the importance of what we do... The outside world won't change our profession for us. People like librarians and libraries just fine the way they see them...If librarianship is to change its outside perceptions it must first change its self-perceptions."[4]

An article in the January 1989 issue of American Libraries hits the nail on the head with the following: "The cold truth is, no fairy godmother is going to wave a magic wand. The image of the librarian will change only if we as a profession work together to make it happen."[5]

We chose this profession--presumably for quite legitimate reasons. The profession has not changed, really, but we have. What are we going to do about it? Some of us will change jobs--go to other libraries, where we hope that the climate is better. Some of us will leave the profession. Some of us will continue to bitch and moan. And some of us will decide to take charge of our destinies and make them work for us by adapting to change and to new situations. By walking tall and proclaiming our pride in being librarians. By "dressing for success" and thereby feeling better about ourselves as well as creating a better image while we're at it. By communicating with each other more. By restoring compassion, collegiality and a sense of community to the organization. By helping to recruit equally well-qualified individuals to the profession. And by remembering that people are our most precious commodity. The library is often referred to as the heart and soul of the campus. Let's return the heart and soul to the library itself. What better time to start than in "The Year of the Librarian"?

Who's in charge here, anyway? We all are. So let's get on with it.

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THE PAST BEFORE US:
THE HISTORIOGRAPHY OF ACADEMIC LIBRARIANSHIP, PAST AND FUTURE

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Abstract. This paper discusses the historiography of academic librarianship by (1) identifying and evaluating the key historians and their works, (2) highlighting the various aspects of librarianship that have been the subjects of major research efforts including individual institutions and library leaders, and, (3) proposing an agenda for further research that includes recommendations about potential subjects and research methods. The purpose of this paper is to raise the consciousness of academic librarians for understanding college and university libraries and, thus, to aid in clarifying our vision of the library's mission in the academic community.

Keywords. academic librarians, biographies of; academic libraries, history of; college and university libraries, history of; historical research; historiography; library historians.

Ask several academic librarians sometime where they would go to locate published material about the history of their profession. What would they answer? Besides mentioning the ALA World Encyclopedia of Library and Information Services and the Encyclopedia of Library and Information Science (which some of us may have used as students) or the infrequent article in the Journal of Academic Librarianship or College & Research Libraries, could they suggest anything else indicating a first-hand knowledge of the historical literature of the profession? Admittedly, these sources indicate presuppositions on our part about where we as academic librarians learn about our profession. But all of us trace our earliest conceptions of how academic libraries came to be and what they were designed to do from printed sources, books discovered on library shelves, materials introduced to us by professors, or journals and other publications that we regard as the core literature of our craft. We believe, however, that much of the core literature is inadequate to introduce to us our rich heritage and we hold in high esteem the practical value of a nuanced understanding of that heritage.

In some professions retrospective knowledge matters little, but in academic librarianship--that branch of librarianship that deals with recorded information in college and university settings, and has done so for a thousand years in the West--the lack of historical knowledge becomes an embarrassment. If, as Michael Kammen has said, "history is an instrument for understanding patterns of human behavior over long periods of time,"[1] then the history of libraries stands as a natural part of the analytical equipment of the profession.

An awareness of library history would enrich the quality of our professional dialogue, helping us to define more clearly how we should relate our activity to life at the end of the twentieth century; it would also bring us into community with scholars from other disciplines who seek to understand the cultural and intellectual traditions of society. On a more practical level, the effectiveness of current practice depends (in part) on our knowledge of prior developments, a proposition that is more widely praised among library leaders than one might suppose. Indeed, a small body of literature has arisen that argues for the value of library historical studies. Contributors to this literature include such notables as information scientist Jesse Shera, bibliographic instruction theorist Louis Shores, and library educator Haynes McMullen.[2]

Likewise, the popularity of the history and biography of librarianship in the United States is much wider than initial observations would indicate. When we examined that literature systematically, we were able to identify as many as 7,000 books, articles, dissertations, and other publications which collectively make up American Library History: A Guide to the Literature, scheduled for publication by ABC-Clio later in 1989.

The esteem that academic librarians feel for themselves and their accomplishments is apparent at this conference. The question becomes then, "Is this self esteem grounded in a knowledge of those accomplishments--in historical fact and understanding, or is it merely conjured by wishful thinking or derived from the current achievements of the most progressive among us?" Beyond this lies the question of how we are perceived and appraised by academic colleagues in our home institutions: administrators, other faculty, and professional staff. Are we regarded as latecomers or adjuncts to the scholarly world, vestiges of a passing educational mode, and known primarily for reserve reading lists, overdue notices, or automation projects? Or have we become an integral and indispensable part of the college and university environment? A sense of historical roles, grounded in solid scholarship and resulting in knowledge, can provide us with an integrity both intellectually defensible and well-placed.

The study of library history presents an opportunity to apply inductive logic to libraries as other scholars and scientists employ various techniques to analyze their own historical evolution. Do we understand our roots? Do we correctly perceive the library's function in the academic community? Are we able to benefit from our predecessors? The purpose of this paper is to raise a historical consciousness by (1) identifying the key historians and their works and evaluating those works from a historiographical point of view, (2) highlighting the aspects of academic librarianship that have been the subjects of major research efforts, and (3) proposing an agenda for further research that includes recommendations about potential subjects and research methods.

Higher education in the United States began in 1636 with an appropriation of the Massachusetts General Court for the establishment of a college. It did not take tangible form, however, until two years later with the bequest of John Harvard for a sum of money and a book collection of approximately 300 volumes. Ironically, Harvard College had a library five years before it even had a building.

Throughout most of the next two centuries libraries in New England colleges dominated academic librarianship and, for an extended period, would dominate its historiography. In 1934 Louis Shores published Origins of the American College Library, 1638-1800, an analysis of administrative patterns and collection growth at Brown, Columbia, Dartmouth, Harvard, Pennsylvania, Princeton, Rutgers, William and Mary, and Yale.[3]

Shores established a methodological pattern still respected and used in library historiography, that of drawing generalizations by examining closely a selected group of institutions as they evolved during clearly defined time frames. Later historical syntheses resembling the Shores model include a dissertation by Benjamin E. Powell on "The Development of Libraries in Southern State Universities to 1920" (on the universities of Alabama, Georgia, Mississippi, North Carolina, Tennessee, and Virginia, as well as Louisiana State University); an especially thoughtful study by Kenneth Brough, Scholar's Workshop: Evolving Conceptions of Library Service, on Columbia, Harvard, Yale, and the University of Chicago from 1876 to 1946; and Robert E. Brundin's "Changing Patterns of Library Service in Five California Junior Colleges, 1907-1967."[4]

GENERAL STUDIES

As colleges and universities were established in the midwest and in the western United States, they came eventually to take their places, alongside New England institutions, in library historiography. They were included in two broad national syntheses which appeared almost simultaneously in 1981.[5] Arthur T. Hamlin divided his book, The Academic Library in the United States, into (1) a chronological record tracing academic libraries from the Colonial Era to the post-World War II period and (2) a collection of essays on governance, organization, services, architecture, cooperative efforts, collection building, technical processing, technological developments, and financial resources. Although Hamlin produced an intelligent chronology, his analysis relied heavily on personal observation and reminiscence based to some extent on his work experience at Harvard, the University of Cincinnati, Pennsylvania, and Temple. Similarly, Lee Shiflett provided a synthesis by analyzing secondary sources. His Origins of American Librarianship, summarizing developments from 1876 to 1923, considered libraries in the context of bureaucratic and curricular trends in higher education. Shiflett argued that libraries never enjoyed a "golden age" of full acceptance by the professoriate or internal consensus about priorities of service and expertise. Neither author produced the broad interpretation that belongs in the intellectual arsenal of every academic librarian. Both, however, assembled a wide range of facts and ideas and together these works constitute essential reading for those who seek a deeper understanding of the library's educational environment.

For the uninitiated reader, a better beginning point may be a book edited by Richard D. Johnson, Libraries for Teaching, Libraries for Research: Essays for a Century, an anthology of papers originally published in College & Research Libraries to commemorate the centenary of the American Library Association.[6] These carefully edited papers featured the writing of prominent library historians Edward G. Holley and David Kaser among others and they provided succinct overviews of academic librarianship for the period 1876 to 1976 on collection development, technical services, public services, cooperative programs, administrative structure, library architecture, and influential library leaders.

The works of Hamlin, Shiflett, and Johnson should be supplemented by the traditional historical narratives that explain the origins and development of colleges and universities in the United States. The classics in the field, widely recognized as such by intellectual historians and professors of higher education, were produced by Frederick Rudolph, Laurence R. Veysey, and John S. Brubacher and Willis Rudy.[7]

Doctoral research in the field of library science, beginning at the University of Chicago and first coming to fruition in the 1930s, has produced the lion's share of academic library historiography during the past fifty years. Also, graduate work in history and, to a lesser extent, education resulted in a number of histories of individual libraries. Many of these works discussed selected time periods (often determined by the tenure of chief administrators) and, naturally, their interpretive quality varied widely. Generally, master's theses discussed liberal arts and teachers college libraries while doctoral dissertations treated research university libraries. Thus, the most extensive inquiries resulted in book-length studies of the libraries at Baylor University, Brown, California at Berkeley, Columbia, Illinois at Urbana-Champaign, Indiana, Michigan, Ohio State, SUNY at Buffalo, Texas at Austin, the University of Chicago, Washington State, West Virginia, and Yale.

84

SPECIALIZED STUDIES

Specialized aspects of academic library programs have also come under historical scrutiny. In collection development Joe W. Kraus produced a useful dissertation on five Colonial college libraries (Brown, Harvard, Princeton, William & Mary, and Yale); several more recent studies have followed variations of the Kraus methodology.[8] J. Periam Danton compared book selection and collection development in the United States and Germany while Charles B. Osburn studied the relationship of university library growth to research activity in academic disciplines in the United States for the period 1945 to 1970.[9] Osburn concluded that growth in research collections paralleled growth in research efforts but without responding directly to those effects.

Public services have attracted much less attention historically than has collection development. The authoritative studies of reference work by Samuel Rothstein included but were not exclusive to academic libraries.[10] Richard Miller's study of reference services from 1876 to 1976 at Amherst, Bowdoin, Carleton, Mt. Holyoke, Smith, Trinity in Connecticut, and Williams nicely complemented the earlier work of Rothstein.[11] Historical essays on bibliographic instruction followed the resurgence of that movement in the late 1960s and early 1970s.[12] A variety of essays on shared cataloging and bibliographic networks, stimulated by the ALA centennial, appeared in the mid-1970s; like the studies of reference services, they included but were not exclusive to academic librarianship.[13] Finally, we await with high hopes the results of Minna McIver's dissertation on the conversion from DDC to LC classification by academic libraries in the years from the early 1950s to the early 1970s.

BIOGRAPHIES

Life-writing, a term currently in vogue among historians and literary scholars devoted to biographical research, has long been of interest to the library community. Until the 1950s most biographical studies of academic librarians consisted of laudatory, non-analytical treatments. Full-length, thoroughly documented studies began to appear in comparative abundance a decade later. The major studies either published or in dissertaion form included Laurel Grotzinger on Katharine Lucinda Sharp (Illinois); Maurice Tauber [1967] and Robert S. Martin [1988] on Louis Round Wilson (North Carolina); William Bentinck-Smith on Archibald Cary Coolidge (Harvard); Joseph Borome [1950] and Wayne Culter and Michael Harris [1980] on Justin Winsor (Harvard); Lewis Branscomb on Ernest Cushing Richardson (Princeton); John Abbott on Raymond C. Davis (Michigan); Claud Glenn Sparks on William Warner Bishop (Michigan); Paul Parham on Malcolm G. Wyer (Nebraska); Paul Winckler on C. C. Williamson (Columbia); and John Mark Tucker on Azariah Smith Root (Oberlin).

Autobiography by its nature implies a measure of accomplishment and perhaps even a sense of self-importance; few librarians have been attracted to it. Exceptions include Keyes Metcalf (Harvard) and Lawrence Clark Powell (UCLA) who produced book-length works. Scarecrow Press deserves special commendation for publishing autobiographies and for encouraging prominent librarians to write their memoirs. Consequently, this well-known library science publisher issued the autobiographies of several academic librarians during the past decade: Robert B. Downs (Illinois); Ralph Ellsworth (Iowa, Colorado); Guy R. Lyle (LSU, Emory); Johanna Tallman (California Institute of Technology); and Powell's sequel.

Biographical scholarship advanced impressively in 1978 with the publication of the Dictionary of American Library Biography (DALB), in which retrospective biography achieved for the profession a new level of intellectual maturity. More than 35% (117 of 302) of the entries treated practitioners who served at least part of their careers in an academic library. A supplement to the DALB is scheduled for publication by Libraries Unlimited in 1989. In 1983 Wayne Wiegand issued Leaders in American Academic Librarianship, 1925-1975, a collection of biographical essays that established high standards in historical scholarship and editorial work. Wiegand called attention to the fact that academic librarianship traditionally "placed a distant second" to public librarianship as a topic of historical interest and, five years later, he described the plight of academic librarianship as still lacking "adequate historical attention."[14]

RESEARCH AGENDA

In order to further develop our understanding of the heritage of academic librarianship and to help clarify our visions for the future, we offer the following proposals. First, we need to examine thoroughly the full range of public services: it is time for fresh historical insight into reference programs, especially in light of recent calls for reform, also for broader interpretations of user instruction, and for analyses of technical and philosophical aspects of access services and of library and information use generally.

Second, we need research into personnel and administration (who has been attracted to this profession, what kind of preparation has been necessary, how we have managed human resources, and how these issues have changed over time).

Third, we ought to examine the history of college libraries; too much of our research effort has concentrated on research university libraries and their administrators to the virtual exclusion of liberal arts and teachers colleges with the sad result that we have only marginal appreciation for the distinctiveness of these institutions, their collections, services, and educational purposes.

Fourth, we recommend the revision of biographical dissertations for publication. In addition, researchers interested in life-writing should consider the psychohistorical methods that have been used in scholarly and popular biography for the past thirty years, as well as the technique of collective biography with its potential for illuminating the socio-economic, intellectual, and political characteristics of librarians and library administrators.

Fifth, we could benefit greatly from thorough analyses of how academic libraries have adapted to change over the years whether from technological innovation or as a result of bureaucratic, curricular, or economic developments, or a combination of these.

Sixth, we desperately need a fuller retrospective view of libraries in historically black colleges and universities that pays especially close attention to personnel and the social barriers they encountered not to mention services and collections. Lelia G. Rhodes's dissertation on fifteen black female librarians offers an appropriate model.[15]

Seventh, we need to know much more about the relationships between librarians and professors (especially the librarian response to trends in research and publication in academic disciplines) and librarians and administrators (especially the librarian role both in building library support and in nurturing larger institutional goals).

Eighth, we ought to have a fuller historical inquiry into what the nation traditionally needed and expected from academic institutions and how libraries and librarians have succeeded or failed as part of that enterprise. A more sharply defined sense of our origins will add immeasurably to a sense of professional self-worth and to beliefs about our rightful functions in society.

Finally, on a matter pertaining to management rather than research, librarians must abandon the proclivity to discard internal records. Rather, we must assume a strong historical consciousness--a concern to preserve the records of our activity. Failure to acknowledge the value of our historical records surely represents a failure to believe in the social and cultural utility of what we do. Not only in the reading, writing, and appreciation of academic library history but also in the preservation of those records which make such history possible, we must consider the needs of those historians of the future if we are to honor the commitments demanded of our profession.

In his classic, An Introduction to Library Science, Pierce Butler claimed that librarians without a "clear historical consciousness" were "quite certain at times to serve" their communities "badly."[16] He regarded our practice as "determined in part" by our "historical understanding;"[17] an understanding which, at its best, should underlie professional commitments.

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INTERACTIVE PLANNING IN AN EVER-CHANGING ENVIRONMENT

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Abstract. Libraries facing a continually changing environment must develop decision-making processes that promote positive responses to change while allowing the organization to function effectively. We have implemented an interactive planning process as a way to encourage creativity in the organization and to develop managers who will help shape the future of the library within the university environment. This paper presents an overview of the theory of interactive planning; describes our experience with implementing the process as part of the management decision-making system; includes a critique of the method; and describes the problems and successes in using interactive planning in a university library setting.

Keywords and Phrases. Decision-making systems, planning, interactive-planning and organizational change.

INTRODUCTION

Change in organizations is an accelerating process. First we face an increasing rate of change. Second, we are facing an increase in the complexity of the problems we must solve. The more complex are the problems, the more time it takes to solve them. The more the rate of change increases, the more problems we face, and, consequently, the shorter is the life of the solutions we propose for the problems. Coping with an accelerated rate of change requires a new view of organizations and the management processes within our organizations.[1]

Historically management theory has emphasized a rational approach to organizational decision-making and design. In the rational view, analysis involves a three step process: (1) take apart the thing to be understood, (2) try to understand the behavior of each part, (3) try to assemble this understanding into an understanding of the whole.[2] In organizations, then, tasks are taken apart and examined to develop the best way to accomplish individual activities. Coordination of the individual task becomes the challenge for managers in this process. The result is a Machine Age approach to management that functions well in an industrial society and a stable environment.

THE INTERACTIVE PLANNING MODEL

In times of change, however, a different approach to management and decision-making is needed. Russell Ackoff has proposed an approach that emphasizes viewing the organization as a system rather than as individual parts to be analyzed and explained. Systems thinking reverses the three step process of analysis in Machine Age thinking. In a systems approach to analysis the steps are: (1) identify the system to be explained, (2) explain the behavior of the whole, (3) explain the behavior of the thing to be explained in terms of roles or functions within the whole.[3]

In analytical thinking the thing to be explained is treated as a whole to be taken apart. In systems thinking the thing to be explained is seen as part of a whole system. Analytical thinking reduces the focus of the manager to a task or activity; systems thinking expands the focus to viewing the whole.

The challenge to the organization in the systems view is to change the thinking of managers from a strictly analytical focus to the broader perspective needed to examine the system. To meet the challenge Russell Ackoff proposes a model known as interactive planning. Interactive planning as a process makes the activity of creating, implementing, and evaluating plans the basis for decision-making. An environment is created where managers are encouraged to be forward thinking and to assess, create, and react to a changing environment. The interactive planning process is based on the assumption that the future depends as much on what we do between now and then, as is it does on what happened until now. That is, the future is largely subject to creation, and planning is used to help us create our own future.[4]

Interactive planning involves three main principles: the participative principle, the principle of continuity, and the holistic principle.[5]

First, participation is the foundation for the process. In interactive planning plans are not developed by a separate unit or staff and then submitted to managers for approval. Rather the managers in the organization engage in the planning process and are responsible for developing organizational plans. Through participation, managers can develop a sense of the total organization making it possible for them to effectively reach organizational goals.

Second, the planning process is a never ending activity. Planning is not seen as an annual exercise separate from the day to day activities of the organization. Following the principle of continuity, plans are developed, implemented, evaluated, and revised on an ongoing basis.

Third, planning is a holistic process that requires coordination and integration.[6] Coordination is essential. No unit can plan effectively if it plans independently of other units at the same level, because a threat or opportunity to one unit may be perceived and handled differently in another unit. Integration is also essential for the process. Plans created at one level may affect other levels of the organization. The solution to problems at one level may require a change in policy or procedure at another level. Conflict can result between units and between levels if plans are created and implemented independently.

To reiterate: interactive planning differs from rational analytical planning models by emphasizing a systems view of the organization, encouraging on-going analysis of the environment, emphasizing a future oriented perspective for the organization, and by encouraging managers to participate in a creative approach to organizational decision-making.

IMPLEMENTATION OF THE MODEL

At the University of Nebraska-Lincoln we chose to implement an interactive planning process as a way to encourage creativity in the organization and to develop managers who will help shape the future of our library within the university environment.

The process began three years ago with the creation of the Planning Group which consists of the Dean, two Associate Deans, eight Department Heads, a representative of the library faculty, a representative of the paraprofessional/managerial group, and a representative of the general library staff. The Planning Group was charged with the entire scope of long-range and short-range planning for the University Libraries.

Planning Group began with a fairly standard approach to planning by writing a mission statement for the libraries, and then looking at goals and objectives. In the first year, the group created ten broad based goals and set numerous short-range and long-range objectives for the libraries. Each objective was labeled as either long-range, short-range or on-going, and was assigned to a department or committee. Each department was then responsible for incorporating the Planning Group objectives into their department objectives. Departments or committees report progress on those objectives on an annual basis to Planning Group.

Planning Group then moved on to examining the organizational structure of the library, and to proposing possible reorganizations as a number of top management positions were vacant. Next, Planning Group looked at overall staffing needs for the library and projections of staffing changes for the next five years as the library prepared to implement an automated integrated library system. Each department presented its plan for staffing showing staff needed and positions that could be moved once an automated system was in place. The process helped to provide data to use in making staffing decisions so that the solving of short-range problems would be less likely to result in the creation of long-range problems.

For example, it was determined that in the long run the libraries would need all of the current professional positions, although in the short run more classified staff positions were needed to help with manual processes that would be eliminated with an automated system. The identification of this conflict in staffing has kept the library from permanently converting professional positions to classified staff positions in the short run and then facing a shortage of professional slots in the long run.

Now, the Group serves as a forum for generating and debating ideas about how the libraries should function. Recently the Group considered to what extent the card catalog should be maintained prior to installing an online catalog.

CRITIQUE

The approach of using interactive planning as a basis for the organizational decision-making environment is slowly permeating the operation. Interestingly, Planning Group members have learned to plan by doing planning. Methods used have evolved over time as the members have learned to work together. In addition, departments are setting objectives, reviewing those objectives during the year, and measuring progress made against them. Staff see the objectives as defining their activities and as setting direction for the unit. Most importantly, departments are beginning to think of the future as they plan day to day activities and to not lose sight of the overall plan of the organization. Planning, then, is not a project done outside of the daily work of the library, but is a vital process within the activities of the functional units.

Instituting a planning process was not without its problems. Department heads have had to learn to think of the organization as a whole and not concentrate solely on their own interests. That is, managers have to learn to think in systems terms, rather than emphasizing analytical thinking. Some department heads have been uncomfortable with the idea of discussing and commenting on the activities of their colleagues in the organization. Territorial issues have arisen as the Planning Group has debated organizational structure and staffing needs. When department chairs request permission from Planning Group to fill professional vacancies, the justifications for the positions are often based on historical staffing patterns and limited debate occurs. The department chairs may be reluctant to question each other for fear that they will then face the same questions about their own department needs.

At times, members of the group have chosen to circumvent the planning process and to use administrative committees to handle sensitive issues that could have been debated within the larger context of the Planning Group agenda. A department's occasional tendency to "go it alone" makes coordination and integration of effort difficult at best. Even the administration has had this problem. The addition of a telefacsimile machine and service was done by administrative fiat and without broad debate of the ramifications or implications of adding this service.

The Planning Group also suffers from occasional identity crises and at least once a year the Group debates its role and function in the planning process and in the organization. The debates reflect the differences in styles and outlooks of the members in the group, and the confusion that arises with a group that is charged with recommending avenues for future activities rather than the more traditional charge of deciding policies and procedural questions of the library.

Furthermore, the interactive planning process has at times been viewed with some suspicion by members of the library staff. The Planning Group has been seen as a kind of "Star Chamber" where secret decisions are made that affect the libraries, even though minutes of the meetings are distributed to the staff.

The libraries addressed some of these concerns in 1988 by more clearly defining the role of department chairs in the organization. The focus of the department chairs changed from one of being reactors to one of being planners, coordinators, and negotiators for their units. This means that the responsibilities for carrying out the activities within a given department now fall to supervisors below the department chair level. In our case the department chairs are the key component in the interactive planning process. In addition, an attempt has been made to explicate the differences between administrative committees and the Planning Group, and to describe how staff are involved. Gradually staff members are learning that their input is important in decision-making processes.

In conclusion, interactive planning is an evolving process which emphasizes creating our own future rather than just reacting to events around us, changes the way that department heads function in the organization, and places more responsibility for the success of the organization at lower levels. Planning for the future and working to make that future happen are part of the routine, daily activities of the organization. The application of Russell Ackoff's principles of participation, continuity, and holistic view of the system are the foundation for making the process a success.

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ACADEMIC LIBRARY PLANNING: RATIONALITY, IMAGINATION, AND FIELD THEORY IN THE WORK OF WALTER NETSCH
- A CASE STUDY

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Abstract. Architect Walter Netsch is responsible for the design of 15 library buildings, including such major works as the University of Chicago's Joseph Regenstein Library and Northwestern University's Main Library. Netsch developed a principle for ordering the design elements in some of these buildings which he has termed "field theory." This paper discusses how field theory principles were applied in two Netsch buildings, how he used a complicated geometry in a third, and how the planning committee modified the application of the "field" in one of those buildings.

Keywords and Phrases. Academic Library Buildings; Architecture; Building Planning; Field Theory; Netsch, Walter A., Jr.

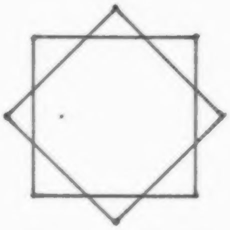
Walter A. Netsch, Jr., design partner for Chicago's Skidmore, Owings, and Merrill architectural firm, designed fifteen library buildings during his career, two of them for major research libraries, these for Northwestern University and the University of Chicago. Other examples of his work are the Air Force Academy Chapel at Colorado Springs, the 1976 addition to the Art Institute of Chicago, and the campus of the University of Illinois at Chicago Circle.[1]

In many of his buildings Netsch employed a design system that he labeled "field theory," a method for developing the layout on both large and small scales through the elaboration of a geometric figure. This paper explains what field theory is, how Netsch used it in one of his earlier buildings, how he used geometric figures (but not the field theory) in a major library, and how he applied the theory in the Science-Engineering Library (SEL) at Northwestern University. It shows how the SEL planning committee changed Netsch's proposed design, and the effect these changes had on the aesthetic and functional dimensions of the building.

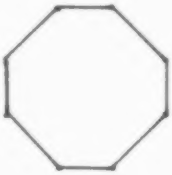
Architectural Record[2] defined field theory as follows:

> "Once the programmatic needs and site requirements are organized into a generalized plan that works, various geometric fields are tested and an appropriate one applied. The selected field provides a continuous proportional system with infinite mathematical variations. As in contemporary painting, sculpture and music; continuity, ambiguity, overlapping, scale change, lattice, pattern and shape are constant ordering elements.
>
> "The primary ordering systems in Netsch's Field Theory are the combinations or orthogonal (right angle) patterns and diagonal (angular) patterns most often defined by rotating the square. The combination of patterns that results from this geometrical game becomes the field. The variety of patterns that can be produced by this process results in infinite opportunities to find a field that will give order to the preliminary organization of building elements."

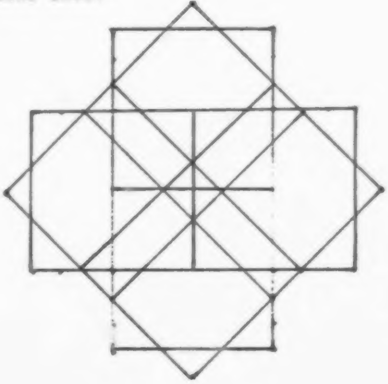
A "rotated square" looks like this:



It can be elaborated to look like this:



And like this:[3]



A schematic layout for a field theory building based on the rotated square is shown for the Behavioral Sciences Building (BSB) at the University of Illinois at Chicgo (1965). (Figure 1 and Illustration 1). The building contains offices, classrooms, lecture halls, and a cafeteria, combining such varied features as winding staircases, galleries, and atria. (Illus. 2, 3, 4). Netsch created a complicated building of great variety within the logic of the field, both geometric and symmetric. In spite of this stylistic elegance, the students and faculty find the building dark, mazelike, almost impenetrable.

In Northwestern University's Main Library (1969), Netsch exhibits the same fascination with geometry and symmetry that is displayed in the Behavioral Sciences Building, but for it he uses a circle placed inside a square as the basis of the layout instead of the rotated square. According to an article in the journal Interiors,[4] Netsch designed the library while he was still formulating his field theory, but he didn't complete it until the theory was developed and used in other projects. It contains, nonetheless, many features of field theory buildings, a "crystalline surface skin," a "lack of facade," "avoidance of masses," a "contact between interiors and landscape," and "avoidance of disrupting the landscape."

The Northwestern library possesses three stack towers raised over a services floor containing administration, circulation, reference, and technical processing. A central service core containing elevators and stairs links towers and provides vertical transportation between them and the services floor. A typical floor in one of the towers will contain enclosed and unclosed carrels, typing rooms, and seminar rooms arranged around a radial stack system and a central study area. (Figure 2, Illus. 5, 6). Instead of rotating the square as field theory would require, Netsch has placed the circle within a square. This opposition of rectilinear and circular forms give the layout a vibrating quality, the viewer's eye moving from circle, to rectangle, to square.

Inside the towers, the user sees the circle rather than the square. Lacking windows to help orient himself within the tower, he must rely on maps, directional arrows, and signage to find his way through an interior apparently devoid of orienting cues. There are cues, however, and they can be discovered by looking at the layout.

Each tower floor has a principal entry approached from the corridor that ties it to the service core. Fire exits and stairs to other floors lie opposite the entry in another corner of the tower. A person at the center of a floor can see entry and stairs, but they are easily seen only from the center. Unless the user knows the layout thoroughly, the most efficient way to find a book is to move to the center of the floor and use the range finders there to guide his movement along the radial arms. This layout takes time to learn. Users accustomed to the customary rectilinear layouts of libraries (and other public buildings like supermarkets and department stores) will have to use the building several times before they can move about it comfortably. The radial plan of the stacks permits carrels and study spaces to be placed close to collections, but it doesn't offer as great a density of shelving as a rectilinear layout would. Before the introduction of online catalog terminals in the links, the hapless user needing to return to the card catalog from one of the towers faced a long and time consuming trip. This need remains for that portion of the collection not converted to machine readable form.

Netsch designed a second library building for Northwestern University, the Seeley G. Mudd Library for Science and Engineering (SEL, 1977). This 60,000 square foot building unites collections for astronomy, biology, chemistry, physics, and engineering.

In SEL, Netsch applied the system of rotated squares to the interior walls (offices, stairwells, mechanical rooms, toilets) while leaving the L-shaped exterior completely rectilinear. (Figure 3, Illustration 7). Early proposals for the building followed field theory principles by carrying the diagonals to the perimeter where triangular insets in the side of the building broke up the unrelieved expanse of limestone and reflective glass. Other discarded variations include finlike projections carried beyond the body of the building, but following the diagonals established in the triangular insets. The projections, incorporating windows with operable sash were to improve natural ventilation should air conditioning be restricted as an energy-reducing measure. The use of projections would have visibly tied the building to another nearby Netsch building, the O. T. Hogan Biological Sciences Laboratory. (Illus. 8).

Users enter SEL on the second, or services, floor. An elevator and three stair cores offer easy access to collections on the first and third floors. Stacks follow a conventional rectilinear layout, although on two axes. Service points are few. The Library staffs exit control, circulation, and information desks during hours of heaviest use. All service points are close to each other and are visible from the library entrance. During hours of low use, service operations can be maintained from the circulation desk.

A planning constraint in SEL was the need for access to a major campus drainage system crossing the site. Netsch met this requirement by creating an oversized loading dock at the ground level underneath the second floor main entrance. The dock and its adjoining mail room preserve the diagonal logic of the layout. (Figure 3, Illustration 9) However, the allocation of blocks of first floor space to dock, heating and ventilating equipment, and staff room breaks up the space, creating odd pockets that are approachable only by following a circuitous path.

Netsch often placed doors and corridors near supporting columns, gaining additional space for open areas. This arrangement succeeded in making ordinarily nonfunctioning space productive, but it did so at the cost of requiring traffic to flow awkwardly around pillars.

Netsch's field theory buildings have exterior shapes which follow interior diagonals generated by the rotated squares. The curious feature about the application of these diagonals is that the geometric and aesthetic unity resulting from the design is not apparent to those using the building. The organic nature of the design is only revealed by viewing the layout from above, as if the roof were cut away. In SEL, applying the system of rotated squares to the layout forces departures from the specifications of the program of requirements, for example offices are about 90 square feet instead of the specified 140 square feet. Oddly-shaped and reduced-in-size offices require special furniture. Wall units must be used, because free-standing desks are both too large and don't fit.

Netsch also proposed enclosing the triangular insets with a perimeteral wall of glass, creating atriums with open balconies that would link one floor to another. These attempts to bring visual interest to the building, to "get away from the boredom of the square box,"[5] were vigorously defended by him. He argued that such spaces had to be heated, cooled, and lit, and that flooring them would add considerably to the building's construction costs. The planning committee countered that balconies would result in unwanted noise being transmitted between floors and that too much usable space would be lost to features that were solely of aesthetic value. As built, the library contains no triangular insets in the exterior walls, fins, or balconies. These changes produced a less distinctive design, but one more closely meeting the functional expectations of the planning committee. Netsch has called the library a "compromise" building.

SEL offers staff and users generous public areas, large windows looking out over Northwestern's north campus and Lake Michigan, and conveniently placed service desks. Its undersized, oddly-shaped offices, fragmented first floor, and oversize loading dock are awkward details, but do not significantly reduce the building's overall effectiveness. Better solutions might have been found, but the planning committee and architects expended considerable energy in debating the functionality of the diagonal layout, and further changes could not have been made without starting almost entirely anew.

Conclusion

In his 1984 *College and Research Libraries* article David Kaser[6] uses four problem areas identified by Keyes Metcalf to critique library buildings constructed during the previous two decades. These problem areas, "potential flaws," include the use of irregular shapes, interior or exterior courts, monumentality, and too much or too little glass. Kaser himself notes the inefficiency of the radial design for Northwestern's library. This building, visually appealing on the exterior and elegantly finished on the interior, requires its users to traverse considerable distances from entrances to towers. The self-contained towers admit no possibility of expansion; once filled the only alternative will be another free standing structure. A large plaza that also serves as a roof to the public services and office floor has been a perpetual source of leaks, the result of fissures opening between plaza and independently moving towers. Its irregular shape and monumentality lead to problems of use that have already been discussed.

In a "field theory" building like the Behavioral Sciences Building, Netsch showed that he could manipulate geometric forms generated by rotated squares in a variety of ways to create an aesthetically unified architectural work. However, its negative features include a bewildering layout, poorly illuminated interiors unrelieved by the use of color, and fanciful winding staircases, those on the exterior closed to use during Chicago's harsh winters. In sum, BSB is a maze of confusing, interior corridors and awkwardly shaped offices. Like NU's towers, the lack of windows and confusing layout offer users few cues by which to orient themselves. Its west face is forbidding and unwelcoming to traffic from adjacent parking lots and the campus lying to the west. (Illus. 10). Its hard surfaces of brick and concrete alternating brown and gray, both exterior and interior, give it a cold, austere aspect.

Had Netsch been permitted to apply the rigid geometry characteristic of his other buildings in Northwestern's Science-Engineering Library, the design would have dominated and subordinated the function taking place within it as it does in the other buildings discussed in this paper. That outcome was avoided in SEL because the planning committee decided that recovery of functional space was more important than the creation of a distinctive and aesthetically unified design.

The characteristics of the buildings described in this position paper and their impact on users are by no means unique. Thoughtful consideration of these aspects of building design suggests other areas of inquiry: How do people learn to use buildings with complicated layouts? Does the use of "You Are Here Maps"[7] contribute to the aesthetic appreciation of a building as well as to its effective use? Do users of complicated buildings develop an understanding of the spatial relationships in them and of the logic underlying the layout? Do users conceptually "map" a building to obtain most efficient use from it?

The creation of an academic library building meets more goals than the construction of a structure. These include the goals of architects to create buildings of beauty, to lend distinction to the names of their firms (and that lead to other commissions); the goals of librarians to occupy buildings of function and comfort for themselves and their users (and that enhance their reputations as professionals of both vision and practicality), and the goals of admininstrators to complete buildings that satisfy those who sponsor, support, and lend their names to the buildings and campuses on which the buildings are placed.

Librarians who become involved in building planning can prepare themselves for working with architects assigned to their project by visiting and reviewing layouts for other buildings designed by them. In working with prominent architects, librarians will be able to determine whether the architects have written about the aesthetic principles informing their work. Librarians need to be alert to the consequences of accepting designs which depart from conventions by which much of the world uses and judges buildings, and they should ask themselves how the design promotes the uses to which a building will be put. And finally, recalling the experience described in this case study, they should remember that academic library building planning is very much a group process in which control of outcomes may shift, even late in the project.

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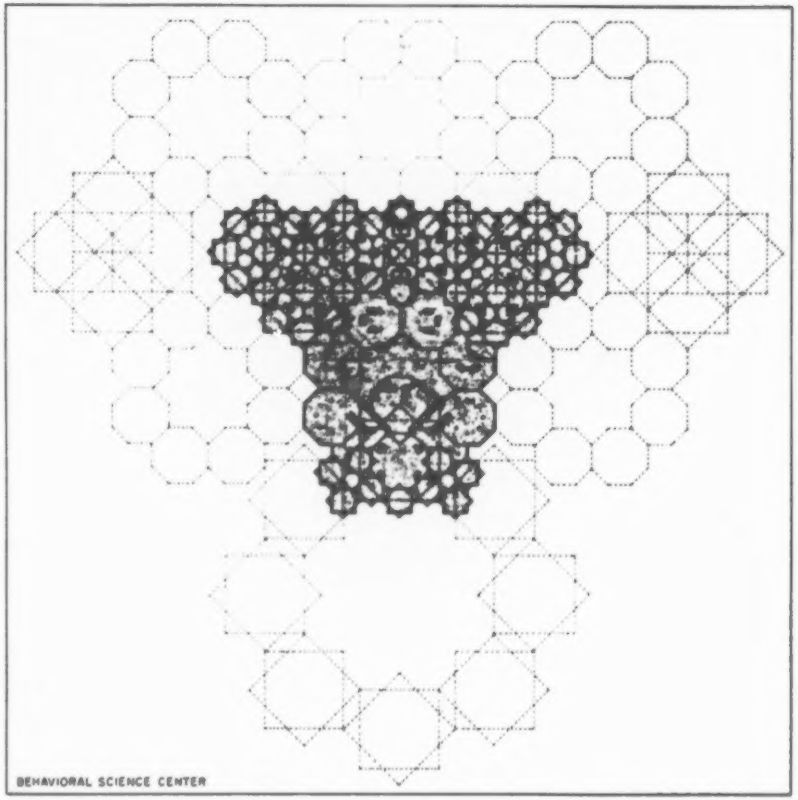
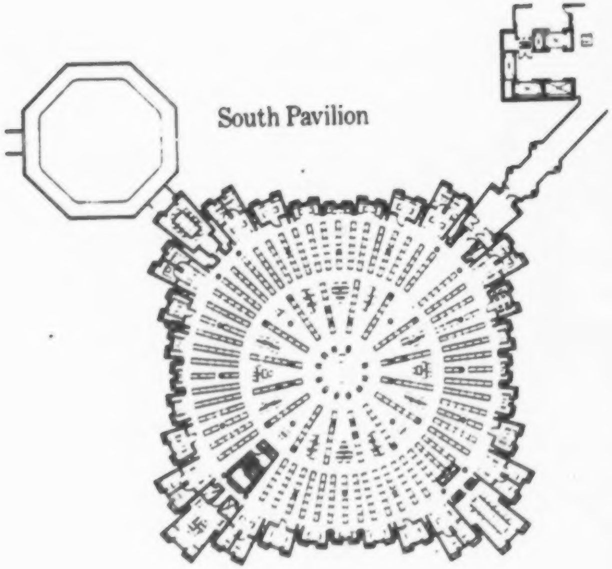
Figure 1


BEHAVIORAL SCIENCE CENTER

Source: Architectural Record, 167, 118 (Jan. 1980)

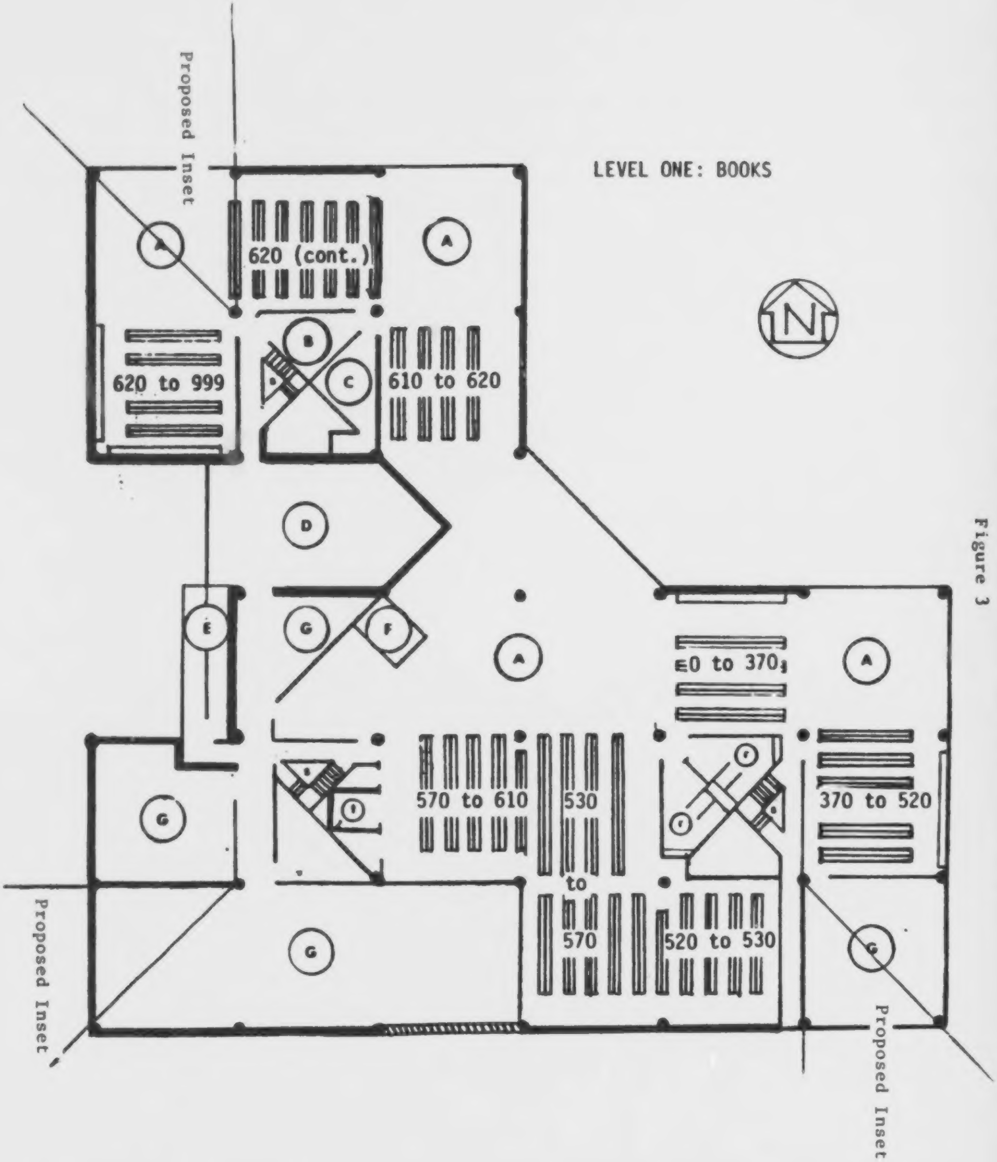
Figure 2


South Pavilion

Source: Interiors, 130, 110 (Nov. 1970)

A reading area
B photocopy area
C group study room
D loading dock
E ramp to loading dock
F oversize books
G nonpublic area

rest room
stairway
elevator


Proposed Inset
LEVEL ONE: BOOKS
N
A
A
620 (cont.)
B
C
620 to 999
610 to 620
D
E
G
F
A
A
370 to 370
570 to 610
530
to
570
370 to 520
520 to 530
G
G
G
Proposed Inset
Proposed Inset

ALL STAIRWAYS LEAD
TO EMERGENCY EXITS
ON FIRST LEVEL

Figure 3

LEVEL TWO: USER SERVICES

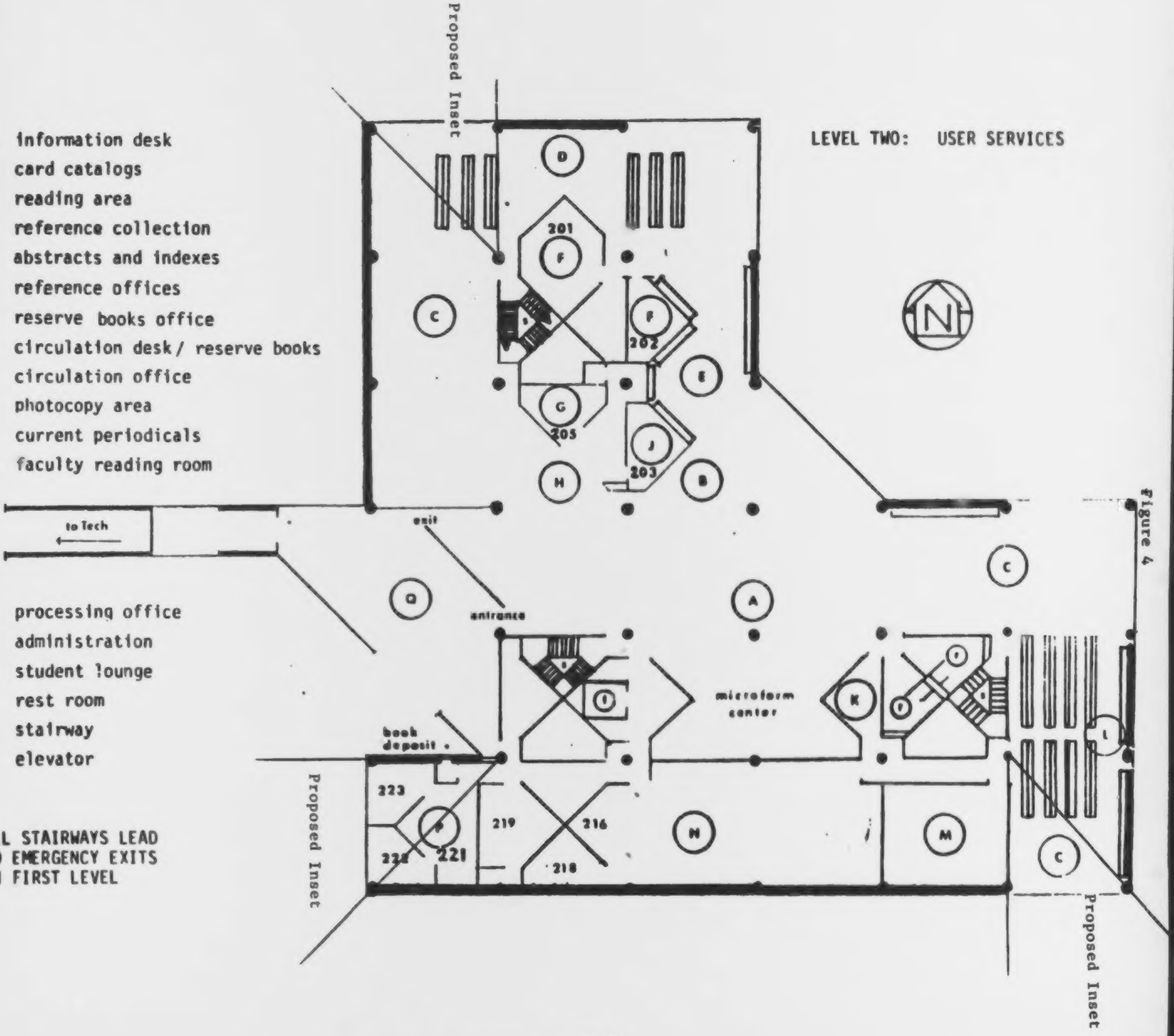

Proposed Inset
Proposed Inset
Proposed Inset
D
201
F
C
F
202
E
G
205
J
203
H
B
to Tech
exit
entrance
Q
A
C
microform center
K
L
book deposit
223
222
221
219
216
218
N
M
C
N

Figure 4

- A information desk
- B card catalogs
- C reading area
- D reference collection
- E abstracts and indexes
- F reference offices
- G reserve books office
- H circulation desk/ reserve books
- J circulation office
- K photocopy area
- L current periodicals
- M faculty reading room

- N processing office
- P administration
- Q student lounge
- r rest room
- s stairway
- e elevator

ALL STAIRWAYS LEAD
TO EMERGENCY EXITS
ON FIRST LEVEL

Illustration 1: University of Illinois at Chicago. Behavioral Sciences Building. View From The South.

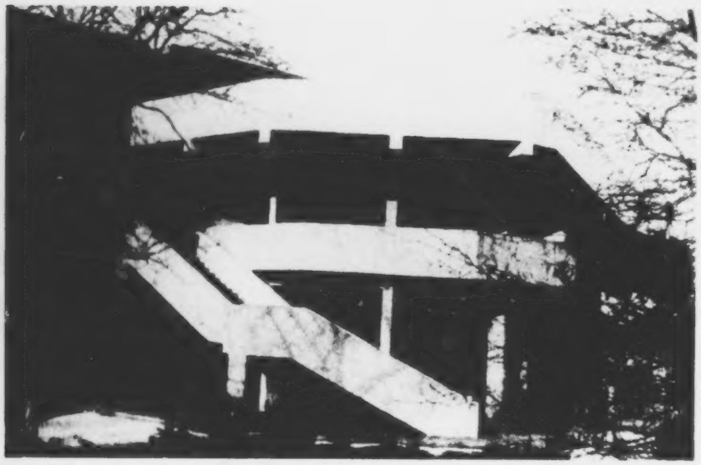


Illustration 3: University of Illinois at Chicago. Behavioral Sciences Building. Exterior Stairway.

Illustration 2: University of Illinois at Chicago. Behavioral Sciences Building. Winding Stairway.

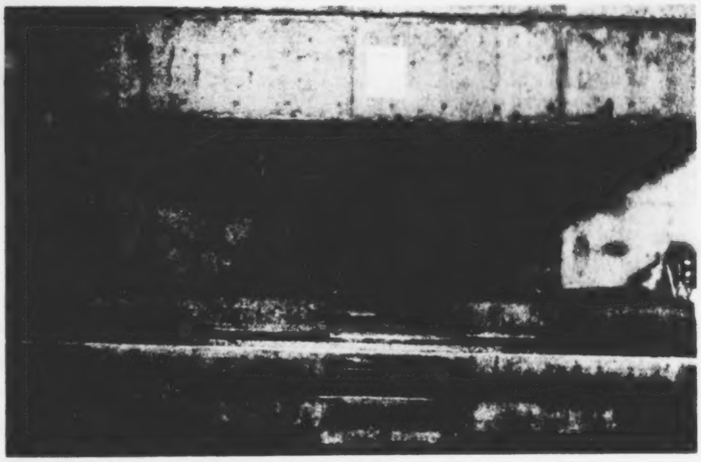


Illustration 4: University of Illinois at Chicago. Behavioral Sciences Building. Stairs Ascending to Wall.

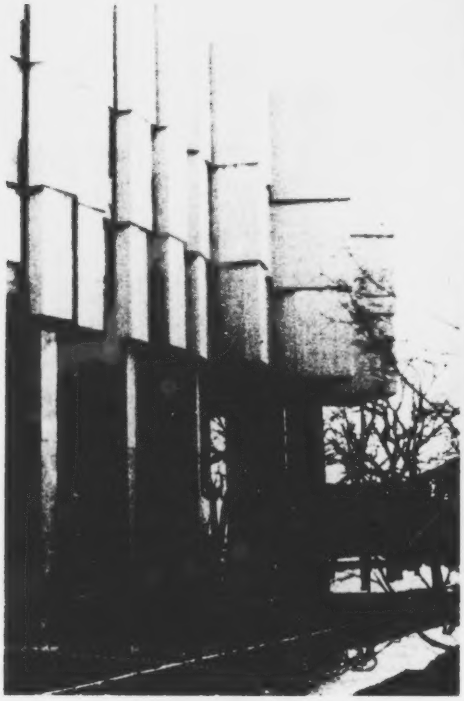


Illustration 5: Northwestern University Library. Stack Tower.

Illustration 6: Northwestern University Library. Stack Tower.

Illustration 7: Northwestern University. Seeley G. Mudd Library for Science & Engineering.

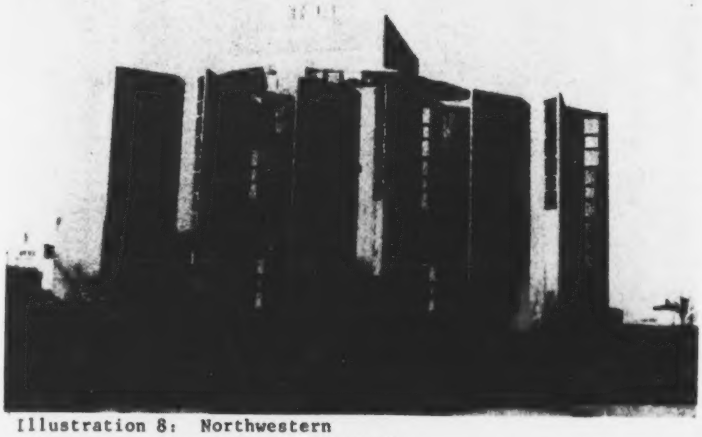


Illustration 8: Northwestern University. O. T. Hogan Biological Sciences Building.

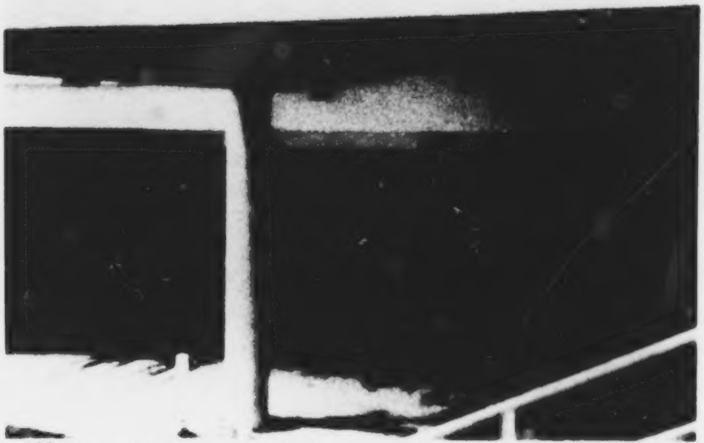


Illustration 9: Northwestern University. Seeley G. Mudd Library for Science & Engineering. Dock.

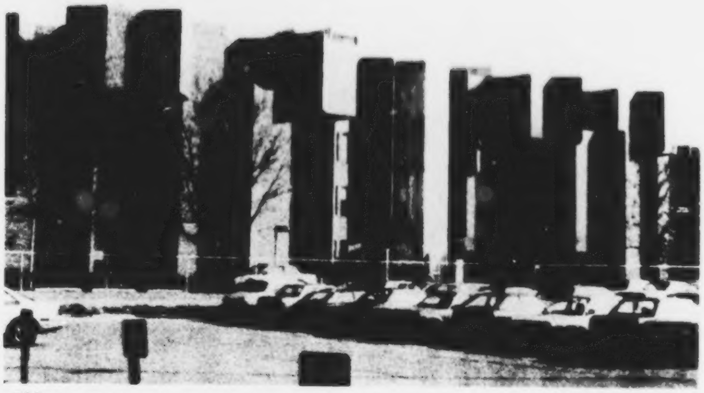


Illustration 10: University of Illinois at Chicago. Behavioral Sciences Building. View From West.

ACADEMIC COMPUTING CENTERS AND LIBRARIES: A PATH TO CONVERGENCE

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Abstract. This paper will look at the convergence of academic computing centers and libraries. It will include information and discussion from the Association of College and Research Libraries ad hoc Task Force on Libraries and Computer Centers as well as the author's own experience as the Director of Libraries, Media, and Academic Computing at two institutions. The purpose of the paper is to show that cooperation between libraries and academic computing centers can help each to better meet the service goals of their clients. How this cooperation can be enhanced will be explored, including specific guidelines to attain the goal of a seamless information interface between these two information providers. The paper will also look at the administrative merging of academic computing centers and libraries from the viewpoint of someone who has experienced it. The advantages and disadvantages of such a relationship will be explored.

Keywords and Phrases. Seamless information interface, Rivalry, Cooperative activity, One-stop shopping, Reporting relationship, Library/computer center convergence.

Libraries are no longer the sole information provider on most campuses. Allen Veaner pointed this out in his article on "The Next Decade in Academic Librarianship," when he said:

> Libraries and computer centers have long been in competition for the same dollars. Technology has advanced to the point where it is obvious that the two agencies represent different faces of the same coin.... The challenge is to get them together and put an end to the bitter political battles that are waged for limited funds.[1]

In commenting on Kaye Gapen's call to librarians to "have the closest possible relationship with their computer centers,"[2] Veaner goes on to suggest that "if wasteful and destructive rivalry is not to occur, there must be administrative liaison at the highest levels."[3] Perhaps with this idea in mind the Board of Directors of ACRL in the summer of 1986 established an ad hoc Task Force on Libraries and Computer Centers and charged it "to investigate cooperative ventures between academic libraries and computing facilities and to draft guidelines for such cooperation."[4] That Task Force, on which I served, has produced a draft entitled Guidelines For Library Computer Center Cooperation.

The Task Force began by looking at the possibility of merging computing centers and libraries, but through a survey discovered that "Nearly all of the libraries (90%) reported that no change in the reporting relationships at either director level (computing or library) is under active consideration."[5] The committee then did telephone interviews with library directors at institutions that were identified by respondents to the survey as either moving in the direction of mergers and/or cooperative programs between the library and campus computing facility, or having already merged. My interpretation of these interviews and my own experience leads me to believe that when merger does occur, it is usually for political reasons that are specific to a particular institution and that generalizations cannot be made from the political decisions of a few institutions. What is clear from the studies of the Task Force is that what Kay Gapen suggested is true: cooperation between computing centers and libraries needs to be as close as possible. The rest of this paper will address how that can be facilitated.

The steps I will identify to facilitate closer cooperation are based on my experiences at the College of Saint Benedict and St. John's University, and are a combination of what the two institutions did or, as we realized later, should have done. These steps have a close resemblance to the Guidelines For Library Computer Center Cooperation drafted by our ACRL Task Force.

The first step to closer cooperation is to identify the services and products being provided by the two organizations. It is not unusual for perceived competitors to have invalid perceptions about what the other is doing. Just a few years ago on our campuses, Academic Computing revealed plans to offer online database searching as a new service to faculty; they did not know the library had been doing it for years. Fortunately, I have served on all of the computer advisory committees since the first mainframe computer came to our campuses. With this advantage, it was possible to share information between the computer center and the library and to avoid situations that might lead to direct competition between these two areas. This is not the norm. In my current position as director for both academic computing and library, I periodically receive calls from academic computing directors at other institutions involved in online system installation, asking for my help as a librarian, because their librarians are not talking to them.

The second step is to clearly define the parameters of any future relationship and determine who should logically deliver specific products and services. In this discussion, current overlap and areas not being covered should be considered. If one assumes that both organizations are patron-centered, the question should be who has the resources and expertise to best provide a service. This might also provide an opportunity for cooperative activity. For us, the ICPSR (Interuniversity Consortium for Political and Social Research) tapes are an example. The libraries are responsible for providing descriptions of the tapes available; the computing center houses the tapes and makes the digital data available to the faculty. Each is playing to its strengths!

Another example of our cooperation is a joint project involving meetings of Library, Media, Academic Computing, and Administrative Computing representatives. Each year we talk with approximately four academic departments about their information needs. Rather than each information provider presenting separate and sometimes conflicting information, we are going in as a team. This avoids confusion for the departments and promotes better understanding among the information providers so that we can come close to providing one-stop shopping for our patrons. A phone call to any one of the providers should either give the patron the information needed or identify who can, thus avoiding both confusion and competition.

The third and most important step is to involve all staff levels of the various information providers in the cooperative effort. If the staffs do not have ownership, cooperation will not occur. The opportunity for staff members to exchange ideas and philosophies is important; library staff and computer center staff come from very different cultures. Librarians have been responsible for an underutilized resource; computer center staff have been responsible for a very scarce resource. Each can learn from the other. This difference in experience came to light in our institutions over the issue of public computer access in the libraries. Library staff members encountering students in need of help with word processing wanted to do whatever they could to help the students then and there. Library staff have very strong service orientation and find it difficult to let patrons leave the library without at least attempting to meet their needs. The academic computing staff saw this issue very differently and believed we were doing a disservice to patrons by trying to help, instead of sending them to one of the many one-hour introductions to word processing they offered. They pointed out that more often than not the patron would get so frustrated it would take him or her much longer to learn a word processing program because of a bad initial experience. With 1,000 new students coming in each year, there was no way the library staff could help all of them anyway.

The fourth step is to look very closely at the reporting relationship of the two areas. In the survey taken by the Task Force, while 75% of the library directors reported to the chief academic officer, only 45% of the computer directors did.[6] Cooperation seems difficult enough to me when the units involved report to the same person or part of the organization (usually the chief academic officer); when the units report to different parts of the organization, any competition or bad feelings existing among them may create barriers to cooperation. As Director of Libraries and Academic Computing for the College of Saint Benedict and St. John's University, I report to the Academic Vice Presidents of each institution. I have appointed an Associate Director for Academic Computing who reports to me and meets regularly with other Library/Media Associate Directors to assure exchange of information and continued cooperation. The staffs of the two areas remain separate, each utilizing their unique talents for our mutual benefit. Merging administratively seems to be working for us.

The process for bringing about library/computer center convergence must be given careful consideration and must be based on the ability to provide an information network as seamless as possible to best meet the information needs of the users. I believe this goal can best be achieved by determining a proper course of action at each institution. The internal political issues, resources, user needs, and staff available at a given institution at a given point in time must be taken into account.

Finally, it is best that any change in relationship be brought about slowly. There is a growing body of literature about merging institutions and parts of institutions both in library and management literature.[7] All give good advice, but the issue that keeps coming up is the impact any change will have on the staff and the users. Universities, as DeGennaro points out, are conservative places. We have to introduce technological changes in a way and at a pace that is acceptable to the communities we serve, and most communities will not tolerate revolutionary initiatives. They can be "educated" and led in new directions, but those directions have to be reasonable in realitv as well as in perception.[8]

What I hope to have done is to provide you with food for thought and a logical process to look at your individual needs. I asked my computing staff to tell me what they thought about how cooperation was working at our institutions. Their response indicated that, while one party in an agreement cannot be forced to "cooperate" in supporting a service that is provided by the other party or to "allow" the other party to support a service provided by the first party, both parties can reach an acceptable level of cooperation by establishing goals and planning together how these goals can be achieved. They feel that having library services and academic computing services together at our institutions works because there is no feeling of competition with each other. In fact, they are looking forward to the day when both groups work together on a large scale--as in the creation of an electronic information network. What pleased me the most about their response was that they felt the real advantage to our jointness was that we give our patrons, both library and computing, the idea of having all their information needs met by "one" group.

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PATRON INPUT INTO PUBLIC SERVICE LIBRARIANS' PERFORMANCE APRAISAL

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Abstract. Traditionally performance evaluation has been conducted by either management or peer review. Concomitantly, typical user surveys have focused on identifying user behavior or evaluating specific services, often the introduction of a new service. The paper describes a user survey which attempted to combine these two instruments and discusses the ramifications of such surveys for management and performance appraisal. Although not designed to evaluate specific individuals, user surveys can give both administrators and librarians a clear sense of the overall management and competency of the entire staff.

Keywords and Phrases. user surveys, user satisfaction, evaluation of service, performance appraisal

Many colleges and universitites routinely utilize standardized questionnaires each semester to provide student input into the teaching skills and effectiveness of its faculty. The results of these questionnaires are used by the department head to provide insight about the teaching of the members of the department. Additionally, tenured faculty may be assigned to visit the classrooms of junior faculty to assess the quality of teaching. Both the questionnaires and reports of the visiting team are used to evaluate the teaching component of an individual's performance as a member of the faculty, especially when decisions about tenure must be made. Research and public service are more easily evaluated, perhaps largely because those elements can be quantified and value judgments more easily made. It is the primary area of faculty's work, teaching, which is most elusive.

However, grappling with how to evaluate job performance is not isolated to teaching faculty. Indeed, the literature of personnel management is rife with discussions of performance appraisal. Academic librarians too are constantly confronted with the dilemma of how to evaluate ourselves and how to convey what we do to campus administrators and faculty. In an attempt to document public service librarians' job performance for promotion and tenure, the Library of the University of Illinois at Urbana-Champaign recently concluded a pilot study of a user survey, the Service Evaluation Questionnaire (SEQ), to obtain evaluative data about individual library departments which could be used in promotion and tenure decisions and documentation of individual librarians. The library had already been utilizing visiting committees, similar to those used by teaching departments, for untenured members of the library's faculty. Although the reports of the visiting committees provide valuable insight into a librarian's performance, only a handful of colleagues and library users are contacted and those are selected by the person being evaluated. Therefore, the SEQ, analagous to the teaching evaluation, was introduced to overcome this bias and provide input from a broader range of users.

The Director of the Service appointed a three person committee who worked with the campus' Survey Research Laboratory to develop the questionnaire, which was sent to all library faculty and discussed at a faculty meeting. Modifications were made and a small pre-test conducted and further refinements made. Five departmental libraries of various disciplines and size were selected to participate in the pilot study which was conducted just prior to spring break in March, 1986. The committee met with librarians in each of the five libraries to discuss the questions and the process. All five agreed to a core group of 67 questions which were asked in all five instances and each could also select an additional 20 or so questions.

The questionnaires with an accompanying cover letter from both the Director and the librarian of the unit and a list of all the unit's personnel including a brief description of each's duties were mailed to all faculty and graduate students in the departments served by the library being evaluated. In such an interdisciplinary world, the first question asked if the library being surveyed was the respondent's primary library and if not, to indicate what other libraries on campus were used. Other demographic data such as rank, number of years at the university, and use of other major American academic libraries were collected. Other questions asked frequency of use of the library being surveyed and frequency of use of the various services, and how often various library personnel were consulted. There were evaluative questions about the library's holdings of books, journals, reference sources, and non-print formats in the respondent's field. Users were asked to evaluate the daily administration of the library, its physical plant and environment, online searching availability and search results, bibliographic instruction in general and the online catalog in particular, hours, and service given by student assistants at night and on weekends. And finally, space was provided for suggestions about improving the questionnaire or comments about a particular question. All questions were individual library specific with no attempt to evaluate the overall library system.

Because the questionnaire was sent to all in the department, non-users as well as users were contacted, and some comments illustrated its educational impact in making some respondents aware of the range of services the library offers.

Questionnaires were returned to the campus' Division of Measurement and Evaluation where they were coded and entered into the campus' mainframe. Using the Statistical Package for the Social Sciences, the Division produced frequencies and crosstabs for each unit head, the Director, and members of the SEQ Committee. Comments were typed by the committee to maintain confidentiality and given to each library. Each librarian reviewed the data and met individually with the SEQ Committee to discuss possible modifications to either the process or the questionnaire. The Service planned to launch a refined program the following year and every three years thereafter. Each participating unit reported its reactions to the pilot at a subsequent faculty meeting.

Without betraying the confidentiality of the survey results, I can say that overall we had a 38% response rate for all five libraries with my own library having a 44% return, not a bad response considering the people had only two weeks in which to respond, two very hectic midterm weeks just prior to spring break. Validation that the survey did achieve its purpose of generating responses unique to a particular library was demonstrated at a faculty meeting where one librarian from each participating library spoke about the survey from our own perspective. Although each had received overall positive responses, we all saw areas of improvement, even if only in terms of better education and communication with our users. We realized that we all fell short in communicating the wide range of services the library offers, so such an instrument can be used as an educational tool as well as an evaluative one.

Such a survey can also be used as an effective management tool. For instance, one library received complaints from its self-styled "aging faculty" about materials shelved too low for comfortable stooping. That library shifted its collection and now no longer uses the bottom shelf. User surveys can make powerful statements about new services the library should provide, a change in hours, additional staff, policy changes, additional funding for collections, etc.

Some core questions I felt were not germane to my library, and in truth were not issues to my respondents, were meaningful in other instances and targeted an area of concern for users of some other libraries. Therefore, one should not eliminate certain questions because of the librarian's preconception about the response. Personal bias should not dictate the framework of the questionnaire, but optional questions can provide library specific feedback. However, one area we all predicted would elicit a lack of knowledge was comprehension of the role of the library administration and library hierarchy, and such proved true in every instance. Whether such obliviousness is endemic or signals that the administration are unduly invisible must be evaluated.

Although this particular user survey was designed to assess use and satisfaction with a specific unit of the library to provide promotion and tenure documentation for the librarian, such satisfaction can also be utilized to evaluate the librarian's performance. Traditionally, performance evaluation has been conducted either by management or peer review and has neglected input from users. Typical user studies have focused on identifying user behavior or evaluating specific services, often the introduction of new services.[1] Public libraries, in particular, have done much in the area of library performance with an emphasis on the measurement of input and level of activity. User satisfaction has largely been a neglected area of research. D'Elia pinpoints the stumbling block to such research. "To the extent that user satisfaction is a function of the library's ability to gratify the user's needs or fulfill his expectations, user satisfaction is potentially a very useful diagnostic measure of library performance. The extent of this usefulness, however, is dependent upon our ability to identify the determinants of user satisfaction."[2] Indeed, much of the research to date is isolated to specific library functions.

However, it seems impossible to discuss library performance in a context divorced from librarian's performance. Even quantitative measures such as books ordered, cataloged, circulated, bibliographic instruction sessions offered, reference questions answered, and SDI's sent to faculty are all measures of personnel as well as of the library. The two are inseparable. User satisfaction with the library's services and performance are measures of user satisfaction of the librarian's performance. Our users' perceptions of the suitability and usefulness of our services, the appropriateness and comprehensiveness of the collection, adequate access to the collection via the catalog, the satisfaction with circulation policies, the knowledge gained from our educational programs, and the timeliness and accuracy of our reference work are indeed measures of our job performance, which in turn are measures of the library's performance. User surveys can provide data which transcends librarians' individual styles or personalities and may be more objective than evaluations done by administrators or peers.

Just as the teaching faculty make no attempt to quantify the teaching of each member of the department, this survey was intended merely to give a broad sense of activities in a particular library and how those activities and their purveyors are perceived with no attempt to develop absolute comparability or establish a rating scale.

The Association of Research Libraries' Office of Management Studies surveyed performance measures in academic and research libraries and concluded that statistical methods are time consuming, unwieldy to use and seldom practical.[3] As librarians we can spend more time analyzing and computing variables by number crunching than actually doing the business we are about. It becomes all too easy to get caught up in the process, what measures to employ, and even the raw data, rather than thinking clearly about what is to be gained from the results.

Therefore, using data generated from such user surveys, an administrator can obtain a sense of an individual librarian's effectiveness compared with others. If our jobs are to serve our users to their satisfaction, then effectiveness and satisfaction become synonymous. Levels of performance, not absolute measurement are adequate standards for performance appraisal and can make positive contributions to the organization's operation and staff morale. Even in libraries with more than one professional, comments will cite an individual's performance, and conversely, paucity of comments about one of the staff conveys a message to the reader of the survey results. A gross ranking such as superior, excellent, and good will suffice in performance appraisal and lead to greater acceptance of the results and overall better morale than the development of a more precise rating scale. Absolute scores, which tend to be widely circulated through the grapevine at least, may be devastating and long remembered. Any evaluative system can identify levels of performance, whereas absolute data fail to take nuances and unquantifiable factors into account. To establish absolute rankings, the definition of comparable libraries becomes critical and probably within any academic library there are few units that are truly comparable.

A combination of personal annual reports, visiting committee summaries, and user surveys which address the components of service can provide an administrator or review committee adequate information to make judgments about a librarian's performance. User surveys undertaken by a library should be viewed as positive channels of communication with one's users, an effective management tool, and a statement about the effectiveness of the library and hence the effectiveness of the librarian.

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POLICY FIRST: PREPARATION FOR AUTOMATION

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Abstract. "Building on the First Century" implies that the library is in control of its own destiny. Yet many libraries are given a mandate to automate, initiated by others with agendas of their own. To take full control of the automation process and its own destiny, the library must not only engage in planning but set policies for direction and focus. This paper discusses why policy is critical and provides examples to show how articulating fundamental automation policies can help the library gain control.

Keywords and Phrases. automation policy, automation principles, policy setting, strategic planning.

In the early days of library automation, efforts were initially directed toward securing the right to automate. The seeking of funds implied seeking permission, and the eventual granting of funds bestowed it. This established quite clearly who was in control, and it was not the library but the holders of the purse strings.

Today, the pressure tends to go the other way. If libraries are not already automated or automating, they are looking for a system. Automation is now assumed, and libraries are frequently mandated to select and implement a system as quickly as possible. It would be nice to think that better service to the user was the prime motivation behind this top-down pressure, but as I have heard on more than one occasion, "We don't want to be the last university to automate." This means that those demanding automation have their own agendas which can be expected to differ from those of the library.

Politics and practicality decree that we turn a blind eye to such motives in order to take advantage of available resources, but the hidden or not-so-hidden agendas can easily surface to cause problems along the way. One example of an agenda out of the library's control is that of an incoming university president who has been told to "do something" about the library. This agenda can result in the hiring of a consultant (with or without the library's knowledge, approval or choice), a subsequent report and the implementation of immediate and visible changes to prove that something is "being done" about the library. What could be more visible than automation?

Whether these agendas are good, bad or indifferent, the key point is that they are not the library's. The theme of this conference, "Building on the First Century," implies, however, that the library is in control of its own destiny. In spite of these multi-agendas from varied political sources, it is possible to be more in control of our destiny than ever before, and we must spend time between now and the end of this century preparing a framework for ensuring control in the next.

The key to any control is good planning. This planning process has been discussed in library literature a good deal during the last few years. Businesses have been stressing it a great deal longer. Of particular note, however, is the recent appearance in our literature of "strategizing." Also a well-accepted concept in the business world, strategizing in essence precedes planning because a strategy is developed and a plan emerges from it. In the June, 1988 issue of Library Administration and Management, an article entitled "Strategic Planning in an Academic Library" (1) reports on the use of this concept in a process conducted at Indiana State University Libraries. A five-year strategic planning document was developed to serve as a basis for program planning in the areas of environment, users and collections. It was a fascinating process. In the course of the article, however, while a great deal was said about strategizing, planning, goals and objectives, not one reference was made to policy, even though policy must have been a major concern. Automation is a perfect candidate for the same strategizing process, especially as it transcends all traditional internal library boundaries, but policy must be at the heart of it.

"Policy" is defined in the American Heritage Dictionary as "any plan or course of action ... designed to influence and determine decisions, actions and other matters." Planning determines action; strategizing determines approach; policy sets framework and consequently, secures control. When the library sets and articulates its own policy, it is armed with a defense for its strategy and plan of action. Policy can provide logic and explanation for action, a source for public relations and the means for conveying a sureness of self that is more convincing that the library knows its business than any number of reports, papers or verbal arguments. It sets a tone and conveys an image. It is how a successful business succeeds and it is how a successful library will succeed. It is the foundation for "building on the first century."

The need to deal with policy is one that is sometimes shirked because it requires a degree of critical thinking in which we do not always wish to engage. It also takes time that we sometimes resent. The difficulty with establishing policy is that it is assumed that policy can only be determined at the end of a lengthy process. The time to prepare policy, however, is before, during and after strategizing and planning because there are different levels of policy.

There are policies of framework that articulate given principles or assumptions from which we begin. There are policies of daily operation that explain our practices to the user. Finally, there are internal policies that remain within the library. There is a difference in level, for example, between a circulation loan policy and a policy regarding what data is needed on a temporary card in a shelflist.

The first concern must be the policy of principle. If such policies are set at the beginning of the process, and other levels of policy are developed during the process and finalized at the end, the framework and foundation will be in place, stated and ready for use.

As automation is a key area in which to begin to use policy effectively, I have chosen a few key examples to illustrate how policy and its articulation can be critical to the process and essential to the library's need to establish and maintain control for the future.

Know why you want to automate in real and meaningful terms. As far back as 1984, Susan Baerg Epstein wrote that "the popular and prevailing notion among librarians [was] that most libraries should either acquire [an integrated library system] now or plan to acquire one in the future." (2) Why do you want to automate? Possible answers to this question are "because they told me to," "we've got the money now," and "isn't everybody?" The political answer with various elaborations is "to improve service," but the answer you choose to present needs to be made meaningful and concrete. It would behoove us all to think about this sufficiently to ensure that our entire library staff can provide a reasonable, understandable answer.

Decide on the use of a consultant and why, and don't lie to yourself. When you read articles by Susan Baerg Epstein or Richard Boss or other big names in the business, thoughts of a consultant cross your mind with anticipatory pleasure. Consultants are the new breed of the eighties, and shortly the fact of the nineties, but they are not all Epstein or Boss. To give them their due, however, many consultants are probably hired for the wrong reasons or without sufficient advance thought. Reasons for hiring consultants may well include "come and rescue us," "it'll keep the bosses calm," and "isn't everybody?" Good reasons may be to help with the legal contract, provide an objective third party, and supply expertise or experience not available among existing staff. If consultancy is the route chosen, be sure you really know why, and know also that it will mean a mini-project on its own to clarify what is wanted, select the right person, secure funds and complete a contract.

Never ignore standards. MARC Formats for Bibliographic Description, Authorities and Holdings and Location, AACR2, ISBD, ISBN, ISSN, NISO, OSI, High Sierra, BISAC, SISAC--these are all standards with which we must deal. Some we've been dealing with for years. There are undoubtedly many more, either in existence or as gleams in some fevered eye. Whether one follows them or not, one ignores them at one's peril. The literature provides much argument in support of following standards. The most succinct statement I've found so far is by Dorothy S. McPherson: "The ability to move bibliographic data from one system to another is a primary reason for insisting on standardization." (3) Although she was specifically talking about MARC, her statement could well apply to any of the standards. The trouble is that reality can intrude very harshly in the form of management factors such as time, money and staff expertise. You must decide what standards you will or can follow, and to what degree. By stating up front, however, that you cannot ignore them, you will justify the time you spend deciding what to do.

Systems may come and systems may go, but the database goes on forever. In libraries, we now take this principle as a given. Those to whom we report, however, may not understand the time and money we spend on such activities as recon, at least not beyond the initial phase of entering the data. Being left high and dry once the data is in the new system is a risk we all face. We need to articulate this principle whenever we can without sounding tedious because in the automation process, the database may well turn out to be our Achilles' heel.

Create a single, integrated database. When you automate, you pick a system and enter your database, or several of them, if you are a typical library. Never as simple as it sounded, this is now even more complex. The recent consortia and cooperative environments that are developing confirm this. Whether you create a single database in fact, putting data in a single source, or whether you do that transparently, making the user think it is all in one source even if it isn't, now involves major decisions. With whom will you link today, tomorrow or next week? It is important to ensure that you do not close a door or make that door hard to open down the road.

What management reports and statistics do you really want? Somebody's law decrees that the more statistics you gather, the fewer you'll have that you really want. Herbert S. White has pointed out that library value systems are based on numbers such as circulation count and number of holdings. This dovetails with an image of mine where I come into my library at night and either wand books in and out to increase the circulation count or run in circles around the entrance/exit of our book detection system watching the gate count whirl up. White recognizes that all these figures are used for getting more money in grants or budget slices, but he would like us all to give them up. His concept of statistics is that they should be based on "did the user get what he wanted today?" (4) While I am not sure how to measure that accurately, it is clear that sheer numbers and numbers of numbers are frequently librarians' love affairs. Most systems provide you with innumerable reports and statistics which are impressive, convincing and not used sufficiently to justify their existence. I don't blame vendors. We asked for them. If you can pare down to the essentials and secure the ability to measure a few more elements on a sample basis, you will save a great deal of time in the long run--time you can spend trying to ensure that the user gets what he wants today.

The above policies are just a few of the fundamentals that can be articulated, but I hope they illustrate how important it is to state first principles clearly. With policies such as the above in place, you can create a beginning framework and mount some solid arguments for the paths you want to follow. Putting policy first will ensure that your subsequent strategies and plans have a greater chance for success and that your destiny will indeed be of your own making.

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THE EVALUATION QUESTION: ACADEMIC LIBRARIES ANSWER

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Abstract. This study investigates the extent to which the effectiveness of service activities in academic libraries is being evaluated, the attitudes of academic library administrators toward evaluation, factors the chief administrative officers of the libraries consider meaningful criteria for evaluation, relationships among attitudes toward evaluation, the perceived importance of evaluative criteria, and actual participation in evaluation. An examination is made of the relationships between the organizational/administrative characteristics of academic libraries and their participation in evaluation as well as the attitudes of library administrators toward evaluation.

Guidelines are developed for formulating appropriate evaluative criteria and counterpart activities for gathering pertinent evaluation information.

Administrators of academic libraries encounter financial challenges today as during no other period in recent years. Institutional leaders demand accountability for costly materials, personnel, and services expenditures. Library administrators have the significant responsiblity of carrying out traditional academic library functions with inflated costs and decreased funding. Effective allocation and utilization of resources becomes a necessity.

To meet these challenges and to plan in an effective manner, academic library administrators require appropriate management information. User needs, service utilization, document availability, and library performance demand continuous monitoring. Efficient management depends on facts, measurement of effectiveness, accurate evaluation, and prediction to compete successfully for dwindling funds.

THE ISSUE

Academic library administrators are concerned with whether or not their institutions are doing an effective job and whether they are using the resources they have efficiently. The weaknesses and limitations of depending on quantitative measures of performance are apparent but little progress has been made in identifying the characteristics of evaluation processes which can accommodate the new interest in accountability and performance evaluation. The traditional methods of measuring library service by physical counts do not yield an accurate service level and provide no justification for evaluating its service.

Academic libraries face many difficulties in assessing their performances as service organizations. Their clientele is diverse in terms of level of sophistication and interests, their financial base is restricted, and they depend on the support of their clientele for their continued existence. Academic libraries have approached the assessment of their services in a variety of ways including user surveys, materials availability and accessibility studies, facilities use studies, and studies of specialized services. Academic library administrators, however, have tended traditionally to place major emphasis on the quantitative measurement of library collections, technical services, and public services.

Whether librarians want evaluation of their institutions or not, service agencies are presently on trial in a culture that is developing a deep skepticism, subjecting academic organizations to scrutiny as never before. Libraries are being challenged to prove their worth. Librarians will need to come forward with evaluative data to support their case, or fiscal authorities will assume that evaluation.

The Association of Research Libraries (ARL) Office of Management Studies (OMS) suggests that libraries must assess library services on either an ongoing or periodic basis. The Standards for College Libraries and Standards for University Libraries, prepared by the Association of College and Research Libraries, both require evaluation of the library program. The standards of the College Delegate Assembly of the Southern Association of Colleges and Schools recommend that the library should be evaluated regularly and systematically. Each of the six regional accrediting commissions states that services of the library should be regularly evaluated to determine the library's effectiveness.

The difficulty in assessing library service programs lies in the fact that available assessments do not measure the quality of service and must be cautiously interpreted. The literature reveals a great concern regarding the topic and is replete with research on "evaluation of library services," "measurement of library services," "quality values of library service," and "indices of effectiveness of library public services." None of the research however, has fulfilled the assistance promised, that is, to produce suitable serviceable guidelines for the qualitative assessment of the effectiveness of academic library services to be used for measurement of service, effective planning, and assessment of user needs.

The persistent frustration of the academic

111

library community at its inability to fashion tenable measures of effectiveness for itself can probably be attributed to the fact that it looks so deceptively easy. Although many knowledgeable librarians have tried to form measures, the high failure rate among these efforts bespeaks clearly the formidable character of the task.

PURPOSES OF THE STUDY

The major purposes of this investigation are to determine to what extent those academic libraries serving post-secondary institutions in the southeastern United States whose institutions are accredited by the Southern Association of Colleges and Schools (SACS) are evaluating the effectiveness of their service activities, which services are being evaluated, the attitudes of academic library administrators toward evaluation, and factors the chief administrative officers of those libraries consider meaningful criteria for evaluating the effectiveness of those services. The study examines the relationships among attitudes toward evaluation, the perceived importance of evaluation criteria, and actual participation in evaluation. In addition, the study investigates relationships between the organizational and administrative characteristics of the sample libraries and their actual participation in evaluation as well as the relationship of those characteristics to the attitudes of the academic library administrators towards evaluation.

Information yielded from this investigation could hasten the crystallization of academic library professional opinion on the evaluation of library services effectiveness as well as a subsequent move toward adoption by the profession of an evaluation program.

RESEARCH QUESTIONS

The following research questions form the base on which the research project was conducted:

1. Which library services are being evaluated?
2. How extensive is the involvement of academic libraries in evaluation?
3. What are the attitudes of library administrators toward the evaluation of library services?
4. What criteria do academic library administrators consider important for evaluating the effectiveness of library services?
5. What are the relationships among attitudes toward evaluation, the perceived importance of evaluative criteria, and actual participation in the evaluative process?
6. What are the relationships between the organizational and administrative characteristics of the academic libraries and the levels of participation in evaluation? How do these characteristics relate to the attitudes of academic library administrators toward evaluation?

The population from which the sample for the study was drawn consisted of the chief administrative officers of 734 academic libraries whose institutions are accredited by the Southern Association of Colleges and Schools (SACS) and are listed in the member directory of the Association. A random sample of 417 was selected from this group using a computer generated table of random numbers.

METHODOLOGY

The survey involved one instrument designed by the researcher. The items composing the questionnaire were developed based upon the literature review for this study to obtain information relating to the following major areas of research concern:

1. Management information--Included were questions designed to determine the extent to which the libraries evaluate services, what services are being evaluated, and what types of evaluation are being utilized.
2. Perception of evaluation information--Included were statements describing evaluation of academic library services placed on a Likert-type scale to allow the respondent to indicate agreement or disagreement with the statements.
3. Evaluation guidelines information--Included were factors considered by the administration to be important as meaningful criteria for evaluating the effectiveness of academic library services. A Likert-type format enabled the respondent to indicate the degree of importance of each factor.
4. General information--Included were questions relating to the distinguishing characteristics of the academic libraries which do/do not evaluate library services, i.e., size of the collection, size of the library staff, size of student population, public, independent, or church-related institution, type of institution, etc. This information was used to define subgroups for the purpose of comparison and analysis. Space was also provided on the instrument for comments from the respondent.

DATA COLLECTION

A pilot study was used to test the preliminary draft of the instrument. Revised questionnaires were sent to each of the chief administrative officers in the random sample of SACS institution libraries in September 1985. From the sample population of 417, 348 responses were received for a return rate of 83.45%. Of the 348 responses, 325 were usable for analysis, a valid response rate of 77.94%. The results of the survey were analyzed through the use of the Statistical Package for the Social Sciences (SPSS).

CONCLUSIONS

Several aspects stand out as important in this study. First, traditional quantitative activities dominate the limited evaluation programs being performed in the responding academic libraries with few reporting less traditional evaluation activities suggested in the literature. Administrators apparently participate in less complex, simply collected statistical measures with little user involvement. There is strong agreement among institutions about what evaluation activities they do and do not participate in.

Secondly, an overwhelming level of agreement exists for support of evaluation as an essential activity, even if the administrators do not participate extensively in evaluation. Academic library administrators indicate that evaluation techniques are available and acceptable to librarians, that the profession is mature enough, and that there is sufficient commitment to formulate methods for evaluation. Their enthusiasm is restrained, however, by the lack of reward by their institutional administrations.

Strong agreement also exists on the importance of evaluative criteria with unanimity among all library levels on the most and least important criteria for evaluating academic library services. One interesting aspect of the study is the disclosure of the most important evaluative criteria reflected in the least often reported evaluation activities and the least important criteria reported as activities most often participated in.

Finally, there is high positive correlation, a meaningful relationship, indicated among attitudes of the responding administrators toward evaluation, their perceived importance of evaluative criteria, and actual participation in evaluation. It appears that those academic libraries directed by administrators who indicate a positive attitude toward evaluation and evaluative criteria also participate in more evaluation activities. In addition, the most participation occurs in academic libraries of medium size and budget, whose institutions are public and confer only bachelor's and master's degrees. Interestingly, those libraries with more automated functions participate in more evaluation activities, suggesting that library automation technology could be utilized to produce evaluative information as well as provide an efficient delivery system for organizing and reporting this information, assuring better service to library patrons.

SUGGESTIONS AND RECOMMENDATIONS

A review of evaluation literature indicates that complex and dynamic criteria have been introduced for the qualitative evaluation of library services in a seemingly endless list. However, the identification of acceptable measures has proven extremely difficult. The criteria presented in the literature may be too complex to be useful, an obstacle to its value to managers.

It appears that the criteria selected as a result of this research for evaluating the effectiveness of academic library services, synthesize prior theory and information and combine those with the expressed preferences of the responding administrators. The resulting structure could be of value as the library profession moves toward the adoption of an evaluation program acceptable to academic library administrators.

The following evaluative criteria, selected by the responding academic library administrators in this study as the 12 most important criteria for evaluating the effectiveness of academic library services, are suggested as guidelines for formulating appropriate evaluative criteria. Listed with the guidelines/criteria are examples of suitable evaluation activities for gathering the pertinent information needed for evaluation. All listed activities except one are included in the questionnaire designed for and used in this study.

1. The adequacy of the collection in supporting curricular needs: (a) study distribution of funds for collection by formula for individual subject fields, (b) examination of collection by subject specialists who assess the adequacy of the collections, and (c) analyze feedback from library committee or academic department liaison.
2. Interpersonal communication skills of the members of the library staff: (a) survey patrons on their evaluation of the personal assistance available for finding information.
3. The ability of the reference staff to answer questions completely and accurately: (a) maintain statistics on proportion of questions answered correctly, and (b) study reference staff performance using a test set of questions.
4. The maintenance of the collection and indexes in an orderly arrangement: (a) survey patrons on their use of the catalog as an information finding tool, and (b) study materials accessibility (difficulty or delay in obtaining materials).
5. The ability of the catalog and shelf arrangement to disclose the holdings of particular items or materials on particular subjects: (a) same as 4a and (b) same as 4b.
6. Job satisfaction of the members of the library staff: (a) survey staff as to the extent of their satisfaction with their position as it relates to promotion, personal growth, salary,

duties, etc.

7. The maintenance of adequate hours of access and professional staff assistance: (a) compare hours of services with those of similar libraries, and (b) analyze reference use patterns.
8. The provision of comfortable, attractive, quiet, well-equipped facilities: (a) study facilities use (physical arrangement of materials, service points, furniture, equipment, etc.); (b) analyze use of space for stacks and seating by comparison with accepted standards; and (c) survey patrons on their evaluation of surroundings (environmental climate, attractiveness, etc.).
9. The ability of the bibliographic instruction program to improve effective patron use of the library: (a) measure effectiveness of bibliographic instruction by a pre- and posttest study; and (b) survey patrons on bibliographic instruction (how well it is presented, how important it is to patrons, what can be done to improve it, etc.).
10. The provision of loan policies of optimal opportunity for students and faculty: (a) analysis of circulation records, and (b) analysis of borrowing policy/privileges.
11. The ability of the online bibliographic searching staff to retrieve relevant citations/items: (a) request user to indicate which retrieved citations/items are relevant, and (b) survey patrons on their use of the online search service to find information.
12. The ability of the interlibrary loan service to meet user needs satisfactorily in a reasonable length of time: (a) analyze proportion of interlibrary loan requests satisfied, and (b) assess time required to satisfy interlibrary loan requests.

The findings of this study indicate that administrators of academic libraries are interested in the qualitative evaluation of library services which will effectively present evidence of the strengths and limitations of their service activities. Additional research would be beneficial to assist managers to become more involved in evaluating their own organizations, to rely less heavily on quantitative statistics, and to consider measures of a more dynamic nature.

Based on the results of this research, the following recommendations are made:

1. The proposed guidelines/criteria presented in this study should be field tested to gain an indication of their effectiveness in assisting administrators to gather pertinent information for evaluating the service activities of their libraries.
2. Administrators of academic libraries should review their present programs of service evaluation in light of the proposed guidelines.
3. Evaluation of existing national and regional standards as well as proposed evaluation programs should continue.
4. Attention should be given to the devising of practicable tools for effectiveness evaluation which should be made operational as quickly as possible.
5. Final steps should be taken by the academic library profession toward adoption of a formal qualitative evaluation program.
6. Further study should be based on information from those academic administrators who have used qualitative evaluation methods. Their experiences should offer valuable assistance in identifying specific considerations and problems accompanying qualitative program evaluation.

Finally, this research project identifies a problem area in higher education administration and suggests guidelines for its possible resolution. Further research will be necessary to shape evaluation techniques to assure the effective and efficient use of resources. In addition, it will be necessary for the library profession to renew and affirm a commitment to and enthusiasm for the goal of truly effective library service, strengthening its resolve to meet that challenge.

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RELUCTANT COOPERATION: IMPROVING ACADEMIC AND LARGE PUBLIC LIBRARY PARTICIPATION IN MULTITYPE NETWORKS

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Abstract. Large libraries are often identified as reluctant participants in multitype library networks. This paper reports findings about academic and large public library participation in multitype networks taken from two research projects. The first project establishes an empirical base for predicting perceptions and interaction rates in reluctant relationships. The second project identifies organization development techniques that can be applied to change perceptions and lead to improved large library participation in library networks.

Keywords and Phrases. Networks; Organization Development; Library Cooperation; Academic Libraries; Public Libraries; Multitype Library Networks; Colorado Regional Library Service Systems.

Large libraries, including most academic and large public libraries, are often identified as reluctant participants in multitype library networks. Librarians at these institutions sometimes say the large library is giving more than it is receiving. Net lending is an evermore onerous burden. Providing leadership to networks and sharing expertise to smaller libraries is taking away from serving the principal community.[1]

This paper summarizes the findings of two network research studies as they relate to academic and large public libraries. The first study establishes empirical relationship patterns in multitype library networks.[2] The second identifies organization development techniques that can be used to change perceptions and lead to improved relationships in library networks.[3]

RELUCTANT RELATIONSHIPS: THEORY AND STRUCTURE

Organizational theory has developed two contrasting theories to explain relationships in networks. Most relationships in library networks are assumed to conform to exchange theory--interactions occur only when the library and the network both perceive significant benefits resulting--a symmetrical relationship. Yet, librarians have regularly characterized some relationships, particularly those between large libraries and multitype library networks, as asymmetrical with the network receiving more benefit than the library - a relationship pattern associated with dependency theory.[4] This theory holds that interaction rates are higher when the party perceiving lower benefit perceives higher levels of goal compatibility, disagreement, importance, influence, and quality of work.[5] This paper tests two hypotheses about the structure of relationships between large libraries and multitype networks:

> H1: Multitype library network relationships with academic and large public libraries are asymmetrical, with libraries perceiving low benefit and networks perceiving high benefit.
>
> H2: In asymmetrical relationships, higher interaction rates occur when library directors perceive higher levels of goal compatibility, disagreement, importance, influence, and quality of work.

The data for testing these hypotheses were drawn from a 1979 population study of 412 libraries of all types eligible to participate in one of seven multitype library systems in Colorado. A survey instrument was sent to each eligible library and achieved a response rate of 81 percent. Academic and public libraries exceeded this rate, achieving 85 and 90 percent respectively. Reliability and validity checks built into the instrument were supported.[6] Analysis of the data indicated that the responses varied more by library size than type and that academic and large public libraries shared common perceptions about multitype network relationships.[7]

To test for an asymmetrical relationship pattern, a standard four cell design (Figure 1) was used to analyze responses about relationships involving academic and large public libraries with 1979 annual operating budgets larger than $100,000. Relationships

FIGURE 1

SYMMETRICAL AND ASYMMETRICAL RELATIONSHIPS FOR ACADEMIC AND LARGE PUBLIC LIBRARIES

Library Director Perceives:	System Director Perceives:	
	High Benefit	Low Benefit
High Benefit	A N = 15 Interaction Rate: $\bar{X}$ = 4391.2 S.D. = 13227.	B N = 1 Interaction Rate: $\bar{x}$ = 0.0 S.D. = -
Low Benefit	C N = 28 Interaction Rate: $\bar{X}$ = 1361.6 S.D. = 2926.3	D N = 4 Interaction Rate: $\bar{X}$ = 656.5 S.D. = 1130.4

$\bar{X}$ = 35.64 df = 1 p>.05

where the library and system director both reported low benefit were placed in cell D. Asymmetrical relationships, where one director reported high benefit and one director reported low benefit, were placed in cells B or C, as appropriate. The chi-square test strongly supports the hypothesis that relationships between multitype library networks and academic and large public libraries are asymmetrical, almost always with the library perceiving low benefit. Some 32 of 48 respondents, or 66 percent of the responding academic and large public library directors, identify their libraries as reluctant participants in multitype library networks. Mean annual interaction rates in cell C were 1361.6 or 69.2 percent less than the mean of 4391.2 reported in the mutual high benefit relationships.[8]

The first research study continues by dividing all asymmetrical relationships into two groups, those reporting higher interaction rates and those reporting lower interaction rates, to identify any statistically significant differences in perceptions of goal compatibility, disagreement, importance, influence, and quality of work. These variables are commonly understood to reflect perceptions of input and process in inter-organizational relationships. The findings of median tests are summarized in Figure 2 and support the tenets of dependency theory.

FIGURE 2

PERCEPTION PATTERNS IN ASYMMETRICAL RELATIONSHIPS: MEDIAN TESTS FOR LIBRARY DIRECTOR RESPONSES

Relationship Pattern	Asymmetrical, High Interaction (Average Rank)	Asymmetrical, Low Interaction (Average Rank)	Statistic: Significance:
Goal Compatability	Higher 119	Lower 107	16.918 .000
Disagreement	Higher 126	Lower 109	11.701 .009
Importance	Higher 134	Lower 107	24.732 .000
Influence	Higher 132	Lower 115	16.780 .001
Quality of Work	Higher 135	Lower 102	25.165 .000

Asymmetrical relationships with higher interaction rates are those also reporting higher perceptions of goal compatability, disagreement, importance, influence, and quality of work.

Both hypotheses are supported. The data indicates that most relationships between multitype library networks and academic and large public libraries are asymmetrical with the networks perceiving more benefit than libraries. Second, interaction rates in asymmetrical relationships are associated with higher library perceptions of goal compatibility, disagreement, importance, influence and quality of work.[9]

PERCEPTUAL CHARACTERISTICS AND DEVELOPMENT NEEDS

Descriptive data for academic libraries identify those perceptions that organization development techniques should address as they seek to improve or change relationships in networks. Mean values for perceptions are plotted in Figure 3 and statistically described in the accompanying table. Library and system directors confirm that their relationships are asymmetrical. Library directors perceive lower benefit while system directors perceive higher benefit. Development techniques should recognize the basic dependent nature of these relationships, seeking to improve them as dependency relationships as well as change them to exchange relationships.

FIGURE 3
MEAN RESPONSE: ACADEMIC LIBRARIES

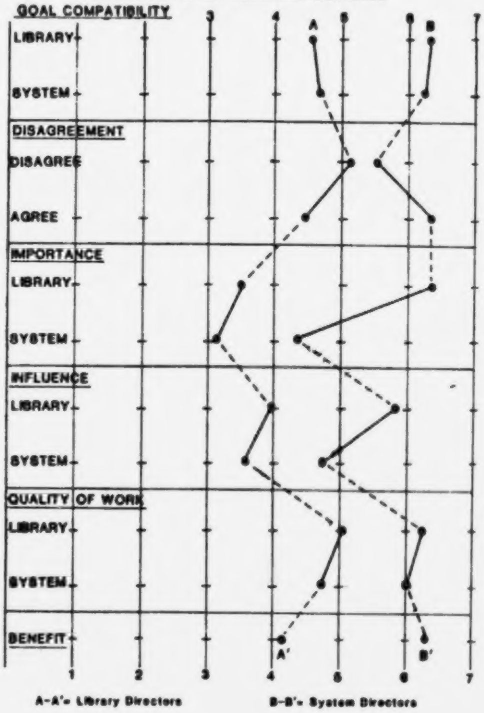

FIGURE 3 (CONT'D)

Desc	LIBRARY DIRECTORS $\bar{X}$	SD	R	SYSTEM DIRECTORS $\bar{X}$	SD	R
Goal Compatability						
Library	4.55	1.60	22	6.27	1.03	22
System	4.64	1.79	22	6.23	1.11	22
Disagreement						
Disagree	5.09	1.11	22	5.50	.60	22
Agree	4.45	1.71	22	6.32	.73	22
Importance						
Library	3.50	1.74	22	6.36	.73	22
System	3.09	1.80	22	4.36	1.29	22
Influence						
Library	4.00	1.45	22	5.82	1.01	22
System	3.68	1.62	22	4.73	1.12	22
Quality of Work						
Library	5.05	1.13	22	6.23	1.11	22
System	4.73	1.64	22	6.00	1.07	22
Benefit	4.14	1.64	22	6.27	.88	22

The second observation is that perceptions are at a reasonably high level.[10] Compared with organizations, relationships are comparatively strong. Library directors rank only two variables, influence and importance, around the mid-point on the seven point Likert scale--a neutral position. By upgrading library perceptions of influence and importance, improvements in asymmetrical relationships can be expected to occur.

Misunderstanding between library and system directors is revealed on two variables, goal compatibility and disagreement. On all other variables library and network directors share a common understanding of the nature, if not the level, of their relationship. In goal compatibility, however, library directors rate system goal compatibility slightly higher than library goal compatibility while system directors do the reverse. In a larger difference of opinion, library directors report more disagreement than agreement while system directors report the reverse. Efforts to reduce misunderstandings on these perceptions should focus on development techniques that will clarify differences so they can be addressed in network planning and operations. This will serve to improve dependent relationships by increasing perceptions of goal compatibility and maintaining disagreement at productive levels.

To change relationship patterns from asymmetrical to high benefit symmetrical relationships, development techniques need to be broader ranging, addressing those quality of work and strategy issues that may be distracting from network performance. By doing so, academic and large public library perceptions of benefit can be increased to the point that the overall nature of the relationship changed with both organizations perceiving high benefit.

ORGANIZATION DEVELOPMENT TECHNIQUES: THE TOOLS OF CHANGE

Organization development and change in academic and large public libraries is the subject of a robust literature. While these references often address the impacts of networks on individual libraries, only a few have discussed the opportunities for developing network relationships per se.[11] In 1986, the author collected cases on network relationships from eleven library networks as part of a Council on Library Resources grant. Many of these cases and appropriate development techniques have been included in a subsequent book.[12] The following paragraphs identify those development strategies that offer particular promise of improving or changing relationships between academic and large public libraries and multitype networks.

IMPROVING PERCEPTIONS OF IMPORTANT AND INFLUENCE

To increase library perceptions of influence and importance, development efforts should focus on how decisions are made on issues of mutual concern. A number of development techniques may be used including: process consultation, team building, and organizational confrontation. Process consultation is a set of activities that help individuals and groups understand and act upon organizational processes. Consultants work with network participants to identify, assess, and change decision-making processes in the network. Consultants usually make use of four intervention techniques: agenda setting, data feedback on decision processes, coaching individual participants on ways to improve their group interactions, and proposing structural alternatives for the network and its participating libraries.[13] Process interventions are likely to be effective in library networks because of their emphasis on group processes common in network operations.

Team building is a treatment designed to help individuals enhance their group problem-solving skills.[14] In initial diagnostic meetings, participants are encouraged to define their needs and propose solutions to group problems. In subsequent team-building meetings, functional issues are addressed as the group works through its agenda. The end result is that participants develop a greater appreciation of their importance and influence in the network.

A confrontation meeting is a one day development effort that concentrates on solving network issues.[15] The intervention begins by sharing network goals and processes in a climate setting session. Then library participants meet in randomly organized small groups to identify how the network night become more effective. This information is then reported back and, after discussion, assigned to a task group composed of specialists to develop recommendations for improvement. Participants emerge with an enhanced sense of library influence and importance. Given the dispersed nature, the concentrated nature of the confrontation meeting often makes it a treatment of choice in library networks.

REDUCING MISUNDERSTANDING

Increased interaction is associated with increased misunderstanding of goals and agreement in asymmetrical relationships. Disagreement can not become excessive or the organization perceiving low benefit may withdraw.[16] Two development techniques are especially valuable when misunderstanding exceeds productive limits, third party consultation, and intergroup relations.

Third party consultation deals with personal disagreements between two or more individuals.[17] The consultant deals with the conflict by using a combination four technique; prevention or eliminating the issue; setting limits to the conflict; understanding the conflict and changing perceptions; and resolution by eliminating the cause. Third party consultation is most effective in networks when it can address the serious concerns of a reasonably small number of participants in any network.

Intergroup relations helps two or more larger groups address dysfunctional conflict.[18] The technique is designed to correct inaccurate perceptions and to encourage effective communication among groups that must work together. It is based on a one day meeting called after all parties indicate their willingness to seek a solution. The meeting begins with the consultant and the leaders from each group explaining the need for improved relationships. Each participating group is then asked to meet separately to answer three questions: what are the attributes that best describe the other group(s); and how will the other group describe us? Next, the consultant calls the groups together to present their answers and to ask questions intended to clarify what others said about them. Each group then meets separately to discuss what the others said about them and to prepare a prioritized list of substantive conflicts. The groups come back together again to develop an action plan for addressing substantive conflicts. After this initial meeting, the consultant works to build intergroup relations through improved communication and shorter follow-up meetings that monitor progress and resolve implementation problems.[16]

DEVELOPING HIGH MUTUAL BENEFIT RELATIONSHIPS

Libraries and networks seeking to change the nature of relationships from dependency to exchange will likely need to implement an extensive development effort using several organization development techniques. Techno-structural interventions, such as the quality of working life, can be used to develop closer congruence among librarians, library, and network needs. Strategic interventions, such as strategic change management, can seek to forecast probable library futures and position a network to help meet them more fully. But in all cases these are major development efforts requiring significant commitments of personnel, time, and resources. The results can be equally significant, changing the overall pattern of relationships so that both library and network perceive high mutual benefits.

CONDITIONS FOR SUCCESS

Four conditions for success seem particularly appropriate to emphasize for developing network relationships. First, all techniques depend on the support of leadership, particularly the library leadership, to recognize the existence of organizational problems and the appropriateness of behavioral science techniques in solving them. Second, major change is contingent on retaining a qualified consultant to work with leadership to develop an intervention capable of addressing network concerns. Third, development techniques must be given time to work and to be incorporated in daily activities. Finally, changes should be assessed and further development needs addressed on a regular basis. To the extent that these requirements can be achieved, an organization development effort will succeed in library networks.

Reluctant cooperation exists. Academic and large public libraries have legitimate concerns they will seek to protect through asymmetrical relationships. However, an asymmetrical relationship can be developed to improve perceptions and performance for both participants. And if the library wants, development techniques can lead to creation of a high mutual benefit relationship.

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ACADEMIC LIBRARIES AND CAMPUS COMPUTING ORGANIZATIONS: RELATIONSHIPS AFTER THE FIRST CENTURY

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Abstract. This research report provides a review of factors and trends that have led academic libraries and campus computing organizations to a closer working relationship and even interdependency. A review of seminal statements and findings that have been published in the literature are reviewed. Findings resulting from a survey of approximately 100 academic library directors regarding their perspective on developing closer organizational relationships with campus computing operations are summarized. Conclusions regarding organizational relationships based on the literature and survey are made.

INTRODUCTION

The development of automated functions in nearly all phases of library activities coupled with an integrated growth of campus computer services have precipitated substantial discussion in both professional meetings and the literature regarding similarities between academic libraries and campus computer organizations. Much attention has been given to the potential for administrative integration of these two units as well as some operational mergers. The impetus for such discussion was boosted among academic librarians with the appointment of Patricia Battin as Vice President and Director of Libraries at Columbia University. A similar impetus in interest was precipitated among campus computer leaders with the publication of some articles in their literature that explored similarities of libraries and computing services. Such activities and the fact that there was a growing commonality of functions between these two units led to considerable introspection on several campuses. As one now reviews the progress toward the organizational combination of libraries and campus computing units it becomes clear that what some saw as a coming tidal wave of mergers, in reality amounted to a barely noticeable ripple of change in rather isolated cases. This evolving relationship and current status between libraries and computing organizations will be explored by:

1. Briefly reviewing the technological evolution that occurred during the past two decades in libraries.
2. Briefly reviewing the technological evolution that occurred in campus computing and their transition from number crunching tasks to information providers.
3. Reviewing the literature and studies done on the evolving relationship of the library and computer service organization.
4. Reporting findings resulting from the author's study of some 60 institutions that were surveyed on the subject of academic service organizations.

TECHNOLOGICAL EVOLUTION IN LIBRARIES

For academic libraries the 1960's was an era of unprecedented collection growth and demand. Manual systems utilized in data tracking reached, and frequently exceeded, the limits of their effectiveness. Consequently libraries began to automate some of their functions during this early period. One may recall the first large-scale experiment in library automation which began at MIT in 1965 known as the INTREX Project (Information Transfer Experiments), as well as another notable project begun that same year by the Library of Congress and fondly known as MARC (Machine Readable Cataloging). Nearly all these early systems were batch-oriented, most of them were designed to automate record-keeping or "housekeeping" functions, and all required the use of a mainframe computer.

The 1970's were characterized by the entrance of commercial vendors into library automation. They began to market so-called "turnkey" systems that libraries could procure and use immediately. A single vendor would supply hardware, software, installation, training, maintenance and support. It was also during this decade that two national bibliographic networks began to flourish, namely OCLC and the Research Libraries Group's RLIN. Still another major library computing-related development that occurred during the 1970's was the availability and utilization of online search database systems. The major vendors of these systems were Lockheed Information Systems (DIALOG), Bibliographical Retrieval Services (BRS), and Systems Development Corporation (SDC).

During the decade of the 80's academic libraries have continued to build on and enhance the developments made during the earlier years. Today one sees the impact in three major areas including:

1. The growth, development, and use of bibliographic utilities: By 1987 there were more than 9000 online terminals connected to the OCLC and RLIN databases. Through these terminals some 23 million books and other materials were cataloged and more than 3 million interlibrary loan transactions were made (1).
2. Expansion and use of information retrieval: There have been substantial advances in these services. DIALOG service began in 1972 with offerings of databases that would respond to a now poky 300 baud rate. Today DIALOG offers 50 databases in a broad scope of disciplines that contain in excess

of 180 million records. These records can now be searched at a rapid 2400 baud.

3. The adoption of online public access catalogs and integrated systems: Not everyone realized in the 1970's that as vendors developed those first tentative systems focusing on one function that they would beget more complete integrated systems for the 1980's. Hence what CLSI started as a circulation system has become for some a fully integrated system. Innovative Interfaces started as a firm building a black box interface between OCLC and CLSI but now offers a fully integrated system. Such scenarios could be repeated with many other firms including CARLYLE, DYNIX, UTLAS, etc.

TECHNOLOGICAL EVOLUTION OF COMPUTING: FROM NUMBER CRUNCHING TO INFORMATION PROVIDERS

A brief look at parallel growth of computing in higher education begins with the first truly electronic computer. It was built from 1943 to 1946 and named the Electronic Numerical Integrator and Calculator (or ENIAC for short). It was developed at the University of Pennsylvania, cost one-half million dollars to build, contained 18,500 vacuum tubes, 70,000 resistors, and 10,000 capacitors. It weighed 30 tons, required the floor space of a small home, and consumed so much electrical power that the lights of West Philadelphia dimmed slightly when it was turned on. Since the advent of the ENIAC and its vacuum tubes, computers have gone through three additional generations including the second generation transistor (developed in 1948 by Bell Laboratories), the third generation integrated circuits (developed in the 1960's and typified by IBM's 360), and the fourth generation microprocessor chip (initially developed by the INTEL corporation in 1971). Today we look to the fifth generation, i.e. a computer that exemplifies artificial intelligence, one that will converse in a natural language and understand speech and pictures. Such machines will learn, make inferences, and decisions.

With these changes in computer technology, there has come a change in how computers are used. Computer networks as viewed presently and how they will be viewed and used in the future, relate only marginally to computation and arithmetic activities. In past years they were much more heavily oriented toward numerical computation. Today, however, modern computing activities are not focused solely on numerical computation but they are becoming information networks and computation is just a function that goes on within the network. It is this growing use of computers in information processing that draws campus computing organizations and the library closer together. This phenomenal advancement and change in computers has had a substantial impact on their use in education. It is expected that today's college graduates will be computer literate, that they will be able to use it in the work environment, and that they will be able to access information and communicate by it. To do this successfully the utilization of computers will have to be infused into all academic areas just as the library has been an integral part of all academic areas. Hence, just as the library has traditionally been seen as the provider of a key service to all components of the university community, now the computing center is being seen as a key service to most components of the university, and just as libraries have been considered the key provider of information and information systems, so too, the computer is being used to access information and information systems.

A 1985 survey conducted by the Office of Scholarly Technology of the American Council of Learned Societies (ACLS) confirmed the rapid growth of computing technology by today's faculty. Questionnaires were mailed to 5385 members of a cross-section of ACLS Societies. There was a 71% response rate. Among other things the survey found:

--In 1980 only 1 percent of the scholars had personal computers. This grew to a phenomenal 50 percent by 1985.

--Uses of the personal computers were identified as follows:

1. 50 percent of the respondents used them for research.
2. 95 percent of the respondents used them for word processing.
3. 55 percent of the respondents used them for maintaining files.
4. 55 percent of the respondents used them for test preparation.
5. 49 percent of the respondents used them for compiling bibliographics (2).

RELATED LITERATURE AND STUDIES

With the developing congruency between libraries and computing service organizations one began to visualize commonalities that precipitated a legitimate question -- because of compatible interests and converging areas of service should the library and computer service operations be organizationally and/or administratively merged. That issue was examined and focused upon during the past years by a variety of interested authorities.

As early as 1983 John Diebold stated that "information technology" would provide libraries with an opportunity to take the lead in managing the information technology revolution. He further noted that libraries would need to achieve information technology literacy. Though he did not dwell on the administrative structure that would be required he did state that "the advent of information technology would affect the structures and organization of libraries at every level." (3)

As previously noted Patricia Battin's appointment as Vice President and University Librarian at Columbia University was seen as a possible harbinger of a future library and computing services combined organizational structure. In a paper presented at the Fourth Annual Columbia University Lectures in Computer Science she outlined her concept of the "Scholarly Information Center." This Center would be formed by merging the library and computer center to meet the needs of so-called "electronic scholars." Battin noted that the integration of these two organizations would serve as a "stabilizing planning mechanism for effective and flexible response to rapidly changing technologies." (4)

Much attention has been paid to the assessment made by Raymond K. Neff, Vice Chancellor of Information Systems at the University of California at Berkeley. Though he noted there were no institutions of higher education of which he was aware that had actually merged libraries and computer organizations there were several trends that could be observed in both organizations. These included: a tendency for the two to more closely resemble each other in function and equipment as storage of information by both becomes digital; more active library manipulation as well as storage and distribution of information; the fading away of the issue of fees for computer usage as costs of all but supercomputer usage drop and remove the necessity for rationing computer use; the continued migration of information access to the user environment; an increase in information sharing as networking becomes further developed; and electronic access for a superior form of browsing with print used primarily for intensive study. (5)

At the 1986 ALA Annual Conference the ACRL University Libraries Section sponsored a program entitled "University Libraries and Academic Computer Centers: Organizational Roles and Interaction in the 1990's." The standing room only audience heard Richard Van Horn, Chancellor of the University of Houston at University Park, list six characteristics that are common to both libraries and computing organizations including:

1. Guardians of a knowledge base;
2. Providers of service to the non-expert, i.e. someone who may be unskilled in library/computer operations;
3. A centralized facility that cuts across disciplines as well as different kinds of users, i.e. undergraduates, graduates, faculty, etc.;
4. Open access;
5. Availability for independent study;
6. Not organized by course or curriculum lines.

He further observed that computing no longer had just an arithmetic computation emphasis. Given these similar characteristics Van Horn suggested that the library faced certain hurdles in providing its services such as labor and space demands, access problems (i.e. less than 24 hours per day), location (i.e. knowing where a particular item is at any given time), limited collections (i.e. single copies), and publication delay. It was posed, however, that these hurdles could be resolved by the computer's role in providing electronic information transfer. Van Horn acknowledged problems by noting that librarians would need to become network managers, copyright issues would need to be resolved, and the level of technology skills of librarians would need to be raised.

Richard Dougherty spoke at the same meeting as Van Horn and stated that libraries would not likely be merged physically with computing service organizations. He suggested that models which reflect collaboration are more likely than models that reflect subordination, and that merger would be made difficult given faculty opposition. Dougherty further outlined issues that the university must deal with as it faced the new technology. These included: the cost of technology; copyright; acquisition's policy for information in an electronic format; the tradition for charging or not charging for services; and areas of organizational dependencies such as telecommunications.

A SURVEY ON TRENDS

Though much has been written about the converging technologies and similarities between libraries and computing services substantial integration has not been observed. There are some institutions that have blended library and computing service organizations to one degree or another but as Cimbala notes "no institution has yet completely integrated the library with the computing center. Columbia University and California State University at Chico have come close, but in both cases those units still maintain separate identities while reporting to a common vice president." (6)

To determine if in fact there was a trend toward the administrative merger between libraries and computing service organizations the author did a study of a randomly selected group of institutions of higher education offering the bachelor's degree or beyond. Of the 135 institutions, 60 responded for a return rate of 44.4%. Among other things the survey revealed the following:

1. Reporting structure for library directors:
    - -- 83.3% reported to the Chief academic officer.
    - -- 17.7% reported to an unusual assortment of individuals including the "Executive Officer of the President's Council" but none reported to a computer related administrator.
2. Reporting structure for computer administration:
    - -- 30.0% reported to the Chief Academic Officer.
    - -- 23.3% reported to the Vice President for Administration.
    - -- 8.3% reported to the President.
    - -- 3.3% reported to a library director.
    - -- 35.0% reported to a broad array of positions including "Vice President for Planning and Strategic Services," "Vice President for Institutional Management." etc.

3. Reporting structure for audiovisual directors:
   - 33.3% reported to the library director.
   - 23.3% reported to the Chief Academic Officer.
   - 5.0% reported to the Vice President for Administration.
   - 38.3% reported to a broad array of individuals including "Dean of Arts and Sciences," "Dean of Education," "Assistant Library Director for Public Services," etc.

4. When asked what their projection of an "administrative" or "organizational" merger between the library and computing services operation was the library directors responded:
   - 6.6% within 3 years
   - 6.6% within 6 years
   - 8.3% within 10 years
   - 61.6% "never"
   - 3.3% "it has already occurred"
   - 13.3% "unknown

5. Budget data shown by the survey revealed:
   - FTE per capita expenditure for library: $238.00
   - FTE per capita expenditure for computing: $117.00
   - FTE per capita expenditure for audiovisual: $50.00
   - Percentage of institutional budget expended for library purposes: 4.08%
   - Percentage of institutional budget expended for computing purposes: 2.00%
   - Percentage of institutional budget expended for audiovisual purposes: .86%

CONCLUSIONS

Though much was written regarding the potential convergence of library's and campus computing organizations it becomes apparent from the survey cited that the "urge to merge" was not prevalent among the library directors surveyed nor was it manifest in actual reorganizations.

Indeed as one reviews the current stature of library and computing service organizations as reflected in the survey, and findings such as those of Cimbala as previously noted it becomes apparent that the "hypotheses" is confirmed, i.e. that convergence and integration of libraries and computing center organizations has simply not developed. There are sound reasons for this and many have been articulated. In his talk to the ACRL conference Richard Dougherty suggested that a merger undertaken without prior agreement of the staff involved, as well as faculty runs the risk of provoking campus opposition and that the absence of library and computing staff commitment to reorganization could have direct bearing on the quality of services delivered. Other problems relating to merger include the differences in the academic credentials of librarians versus those of computing specialists, the faculty status issue as it relates to librarians as opposed to the more typical "staff" status of computing specialists, the broad service orientation of the library versus the more focused subject specific services of the computer organization, and the close liaison and alliance of librarians with academics versus the computer centers close ties with administrative activities.

Given these "cultural" differences and general lack of excitement for library and computer organizational convergence it is wise to do so as Richard Dougherty has suggested and direct our attention "not on the rhetoric of mergers, but rather on the changing roles of libraries and computer centers as campus information agencies." (7)

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ACADEMIC LIBRARIES AND THE FUTURE OF EDUCATION AND INFORMATION FOR RURAL ADULTS: A MODEL

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Abstract. The W.K. Kellogg Foundation has funded a four-year project called Intermountain Community Learning and Information Services (ICLIS) to develop and demonstrate improved ways to provide educational and informational services and resources to people in rural locations. The project is responding to these needs through programming delivered by innovative technologies and traditional methods. The focus of the delivery is the rural public library with cooperative links to land-grant institutions, state libraries, cooperative extension and regional and national resources in the four intermountain states of Colorado, Montana, Utah and Wyoming. In Wyoming the project is directed by the University of Wyoming Libraries, and this paper addresses the model developed in Wyoming during the first two years of the project.

The University of Wyoming marked its first century of service three years ago and the state will celebrate its centennial in 1990-91. In reflecting on the past and looking toward the future we find that like Pogo of comic strip fame, "we are faced with insurmountable opportunity." With a new university president, a newly revised mission statement, and a reorganization of outreach activities, the University is looking critically at what its role should be.

The higher education community in Wyoming is unique in the U.S. with only one four-year institution and seven community colleges. Wyoming's small population, some 450,000, is scattered over 98,000 square miles of rugged mountains and wind-swept plains. With only two communities of 50,000 population, the entire state is basically rural, and the University is reexamining its service orientation and the fundamental concepts that underlie a land-grant institution. One focus of the reassessment is what Layton and Elman call "building bridges to the outside" to make research and knowledge more accessible.[1]

Because the UW Libraries constitute the major information resource for the entire state, Wyoming faces a special challenge to build effective bridges for information access. To meet that challenge, "traditional library services" thinking will not stretch far enough to meet the need. We must follow Drucker's direction to "slough off yesterday through systematic abandonment of certain assumptions and mind-sets. We must think the unthinkable.[2] For too long library programs and services have been evolutionary rather than revolutionary. As Willie Parson commented during the 1984 ACRL National Conference, ". . . visionary planning and practice must occur if libraries are to move from their usual orthodox passive stance to a proactive orientation. . . . Once again, professional librarians will be confronted with a strong mandate: abandon narrowly conceived services and look to novel techniques and developmental strategies for assisting library users and for anticipating needs yet to be expressed by users.[3]

For Wyoming, expanded outreach services must be addressed. Not only do we have to get out of our offices, we have to get out of our buildings and off the campus. Worthy efforts resulting in substantial progress have been made following the revised "Guidelines for Extended Campus Library Services" of the early 1980s.[4] But we are approaching the next decade and circumstances dictate amplification of those guidelines to reflect more long-range planning; more cooperative relationships with academic departments, community colleges, special and public libraries; and more cooperative connections to business and industry. Outreach programming must develop and incorporate marketing and public relations components. It can no longer be a wait-for-the-customer-to-come-to-us operation; it must become a go-out-and-tell-them-what-we-have-to-offer situation.

One program addressing such a nontraditional approach to academic library service is the Intermountain Community Learning and Information Services project, or ICLIS. Now into its third year, the project is funded by a grant from the W.K. Kellogg Foundation to respond to the informational and educational needs of rural communities through programs and services delivered by innovative technologies and traditional methods. The focus of the project is on eight rural public libraries with cooperative links to land-grant universities, state libraries and regional and national resources. The four intermountain states of Colorado, Montana, Utah and Wyoming are participants in the project, but in each state a somewhat different model is evolving. My remarks will focus on the Wyoming model.

Because the Kellogg Foundation supports a great deal of variation and flexibility in programs they fund, the four states were given the freedom to shape their own organizational designs. Each state does have a designated state leader, but the four leaders represent a variety of disciplines including Associate Dean of Humanities, Arts and Social Sciences at Utah State, Director of the Human Factors Research Lab at Colorado State, and Dean of Extended Studies at Montana State. Wyoming is the only one of the four administered by a librarian, specifically the Director of the University of Wyoming Libraries. Undoubtedly, the discipline of the administrator has influenced program emphasis and direction in each state.

Wyoming is also the only program to employ a full-time project coordinator to work with the state leader, and the position has given Wyoming the advantage of better communication and programming guidance. In addition, library faculty have worked closely with faculty from other colleges and departments as well as the UW School of Extended Studies and Public Service to develop courses and the resources to support their delivery off campus. As a result the library is becoming more visible across campus and throughout the state in areas where we haven't been visible before.

To express the complexities and interdependence within the Wyoming ICLIS project, a webbed network or latticed, interwoven structure best describes the model. The organization is not vertical or horizontal but suggests relationships by concentric circles operating from the inside out and the outside in. Circles surrounding the rural resident represent layers of people and resources to facilitate meeting the informational and educational needs of the rural population.

Rural Population

The model consists of five concentric rings around a rural population circle, with three additional circles connected from the outside. At the center of the matrix is the rural population--the central focus of the project. To quote Arlon Elser of the Kellogg Foundation, "The bottom line of this project is whether or not we make a difference in the lives of these rural people."

Community Resources

The next ring represents the Community Information Specialist (CIS) located in the local public library of the two pilot sites in Douglas and Rawlins, Wyoming. The Information Specialists are guided by a Community Resource Advisory Group in each community comprised of representatives from the school district, mental health, public health, Chamber of Commerce, Division of Public Assistance and Social Services, cooperative extension, the public library, law enforcement, economic planning councils, ministerial associations, small business owners and service organizations.

The Information Specialist is a key element in the success of how the outer circles relate to the target and vice versa. They are the brokers and the channels through which needs and information flow. Until this project, no one in the community served in the same capacity as the CIS. Different individuals and organizations were separately offering parts and fragments of CIS functions.

For example, the CIS must know the target circle as well as all the other rings. They must possess knowledge and understanding of all populations. The problem in the past has been getting the information to flow to the target and the needs to flow from the target to the sources. The CISs are the catalysts for facilitating this transfer process. The successful CIS is best described as an innovator, risk-taker and maverick who has a strong belief in the project.

The ICLIS Community Information Specialists working from centers in the public libraries are modeled after the Education Information Centers at the core of the majority of Kellogg funded library projects. Because so many of these centers are now operational nationwide, Kellogg funded a grant to ALA in 1987 to establish a coordinating office for strengthening Kellogg/library project networking and communication. The Public Library Association/Education Information Center National Coordinating Office's Newsletter, the EIC LINKLETTER, assists the office to "provide coordination and support services for the National Advisory Council, project sites, and world of professional librarianship to help promote, publicize, and expand EICs and the evolving role of librarians."[5]

Program Support

In the ring next to the Community Resources is the Wyoming Project Office, consisting of the state leader and a project coordinator located at the University of Wyoming Libraries in Laramie. Project administration is conducted through this office. Planning, development, fiscal and management operations are conducted under the direction of the state leader and carried out through the coordinator's office.

The Wyoming Project Advisory Group consists of thirteen individuals representing various resources and agencies from around the state. They are essential in connecting the next ring of external entities to the inner rings and target.

State Resources

The next ring represents the major resource areas or links to those resources within the state. The wealth of expertise and information found in this division of the web are essential components for making the project work. It is this information and these people we are trying to deliver to the rural population. Currently these resources include the University of Wyoming Libraries, the State Library, U.W. Cooperative Extension, the Health Sciences Information Network, the State Department of Education, the U.W. Department of Adult Education, and the U.W. School of Extended Studies. The blanks in this ring represent additions we anticipate in the future.

Regional and National Resources

Reaching outside Wyoming to establish ties and resources is also essential to project success. Presently regional and national links include the regional Multistate Project Office (MSO), IBM, National Technical Information Service (NTIS), the database vendors, and the W.K. Kellogg Foundation. Again, the blank spaces represent growth for resources to be added as the program progresses.

Interstate Linkage

The outer ring represents interstate linkages within the project. Attached to it are the three other states of the project. Within each of these circles is the organizational structure of ICLIS in Colorado, Montana and Utah. A fourth circle represents the potential for expansion to other parts of the country.

Thus far a number of objectives have been accomplished toward achieving the goal of developing and demonstrating improved ways to provide educational and informational services and resources to people in rural areas.

In addition to an initial needs analysis conducted in the communities, educational and informational concerns continue to be monitored. The microcomputer network connecting the four states has been enhanced with audioconferencing and audiographics capabilities over which credit and noncredit programming is being delivered with library resource support from U.W. Connections continue to develop with other agencies such as the $20,000.00 LSCA grant to establish literacy programs in the local jails of the two ICLIS sites.

As the connections continue to grow and develop, new challenges will arise. The key is flexibility, adaptability and cooperation as we continue to rethink established modes and risk innovative changes for the benefit of adult learners in rural areas. The University Libraries as a primary agency in the project is redefining outreach activities. Commitment to the ICLIS concept is demonstrated by a reorganization of the Libraries last summer to include the ICLIS Coordinator as the Assistant Director for Outreach Services.

Progress in moving the Libraries into new areas of service has been slow at times. Not only have we had to persuade nonlibrarians of the value and necessity of exploring new options, some librarians set in traditional modes have also had to be convinced. Time and persistence are changing those views. The Libraries are beginning our second century of service with a positive look at innovative change for the role of academic libraries in the future of rural Wyoming.

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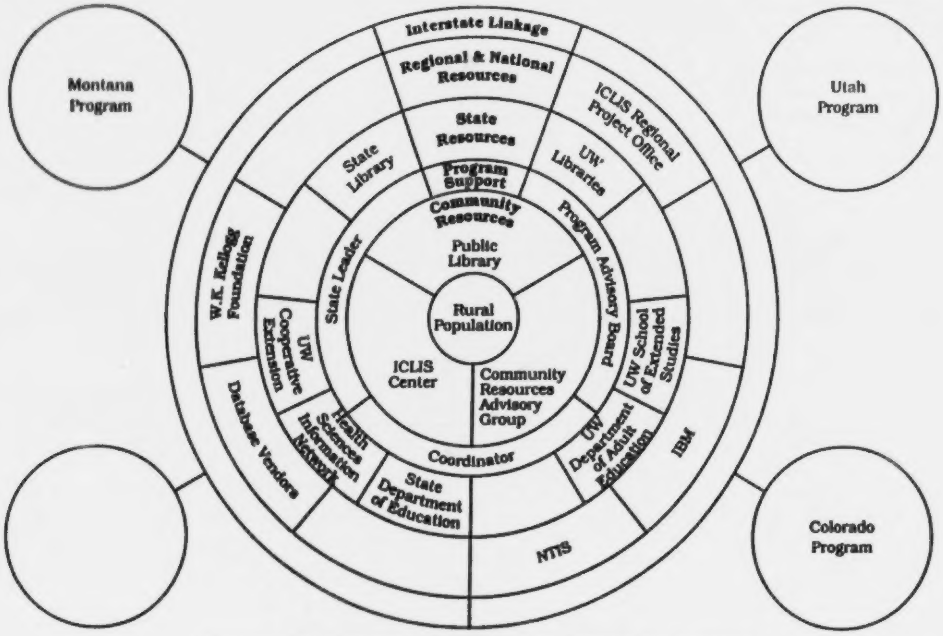
127


Montana Program
Utah Program
Colorado Program
Interstate Linkage
Regional & National Resources
ICLIS Regional Project Office
State Resources
State Library
UW Libraries
Program Support
Community Resources
Program Advisory Board
Public Library
Rural Population
State Leader
W.K. Kellogg Foundation
UW Cooperative Extension
UW School of Extended Studies
ICLIS Center
Community Resources Advisory Group
Health Sciences Information Network
Coordinator
UW Department of Adult Education
Database Vendors
State Department of Education
IBM
NTIS

Intermountain Community Learning and Information Services

The Wyoming Program

128

III.
AUTOMATED SERVICES

AUTOMATING TRADITION:
USE OF THE LIBRARY OF CONGRESS MARC TAPE SUBSCRIPTIONS FOR LOCAL MAINTENANCE OF CATALOGING DATA

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Abstract. Academic libraries rely upon the Library of Congress as the authoritative source for cataloging copy. Through use of the Library of Congress Cataloging Distribution Service MARC tape subscriptions, libraries have the opportunity not only for prompt notification of copy but also for new capabilities to maintain current copy of existing records already held. Expanded use of cataloging records from the Library of Congress represents greater potential for records maintenance, cataloging copy identification, and collection development.

Keywords and Phrases. Copy cataloging; Library of Congress; MARC Distribution Service; Records maintenance.

Introduction

Academic libraries value innovation which can be measured by increased performance and service. Toward realization of this value, we constantly seek methods which abet efforts to fulfill our primary missions to collect and provide access to information. Concurrent with these perspectives is a historically accepted tenet to avoid duplication of effort while simultaneously maintaining high quality. For these dynamics to coalesce and work successfully in the academic/research community requires trust; trust within our own institution to envision goals, and trust within our professional community to help us achieve them.

As academic libraries continue performance based innovative efforts, it is useful to reflect upon our historical values and to adapt them to our present environment of an ever increasing rate of technological change. This presentation focuses on a continuing value to academic libraries which should be incorporated more fully into our present operations: further utilization of machine-readable cataloging data made available by the Library of Congress. First, a historical context will be presented, followed by a discussion of typical uses for this data in academic libraries today. Next, a proposal for more complete exploitation of the Library of Congress Cataloging Distribution Service products will be described. The development plans for this activity at the University of outlined, and, finally, some long-term benefits and issues will be presented.

Tradition

An area of academic library activity which is soundly based on tradition and trust is the use of cataloging information from the Library of Congress. Librarians quickly make the creative leap to recognize the gross inefficiencies of duplication of effort and to acknowledge that the bibliographic description of a book holds true regardless of its physical or geographical location. The definitive description of that book need only occur once and that definition should then be made available universally. This concept was recognized as early as 1847 when Professor Charles Coffin Jewett, proposed a plan for stereotyped blocks for the Boston Public Library and also established a card catalog there in 1853. It is also interesting to note that academic libraries were quick to grasp the concepts of communication and standardization for catalog cards; Harvard University Library began using a card catalog in 1856 and began printing its cards in 1884. In light of its subsequent service and the high degree to which academic libraries now turn to it for authoritative cataloging copy, it is curious that the Library of Congress did not fully adopt card catalog production until the beginning of the 20th century. When he assumed the position of Librarian of Congress, Herbert Putnam served as the catalyst which brought LC into the spotlight for national availability of cataloging information. From the beginning of his long tenure as Librarian, Putnam placed a high priority on LC's service to the library community. In a December 1899 letter to supplement testimony before Congress, he wrote:

> If, as is to be hoped, the National Library will be able to catalogue once for all the new publications under the copyright law, to print these catalogue entries upon cards, and to furnish duplicates of these cards (for some proper charge) to other American libraries, it will be important that it adopt both a form of entry and a size and weight of card that will render these duplicates capable of insertion in the catalogues of these other libraries . . .

That he felt the importance to declare the need for standards presages much of our present day discussions of standards in an automated environment. Putnam was responding not only to his prior professional experience at the Boston Public Library but also to the pleadings of his colleagues. In a 1900 press release which remains timely today, he enunciates our professional requirements and philosophy for effective distribution of information:

> Now it [The Library of Congress] is receiving this urgent appeal: To permit other libraries to order extra copies of the cards which will cover books that they are acquiring; . . . American instinct and habit revolt against multiplication of brain effort and outlay where a multiplication of results can be achieved by machinery. This appears to be a case where it may . . . . The Library of Congress cannot ignore the opportunity and the appeal.

Initial production was impressive for that time; the *Report of the Librarian of Congress* for 1900 - 1901 states that cards were being printed for 200 titles per day. Leaping forward to the watershed year of 1968, the annual report states that 78,767,377 cards were sold for more than $7,000,000.

Adapting tradition

Academic libraries have benefited enormously from the Library of Congress card service as an authoritative source for cataloging copy. Even as libraries began careful consideration of the use of computer technology as applied to library operations, the need for cataloging copy continued to grow. From one perspective, libraries are a production operation with consistent and generally predictable behaviors, key denominators for utilization of computers. The Library of Congress began work with MARC (Machine Readable Cataloging) in the mid-1960's, and its pilot project for the development of a machine notation for cataloging data ended in 1968 with the distribution of some fifty thousand records, which were sold as part of the Card Division's technical publications. The final version of the format (properly called MARC II) has since become the communications standard for bibliographic information. In the 1985 annual report, LC reported a net increase of 171,740 books added to the MARC data base for a total of 2,188,897 book records. That is contrasted with card sales in 1985 of 9,366,154, a stunning decline since the 78 million cards sold in 1968. These figures simply confirm our migration into the automated world. How then do we currently use these records in machine-readable form?

For the most part we have only converted the medium for identification and use of cataloging copy without really examining the fundamental changes or opportunities which this new environment provides. Normally we search the bibliographic utilities for quality copy, and, finding same, we attach our holdings, receive the record on magnetic tape, and load it into our local catalogs. Those basic procedures mimic our historical operations with cards: in the past we would search for the availability of cards, acquire the cards, possibly report it to a some union listing, and file the card into our local catalog.

The opportunity which we are not seizing is the capability for machine-assisted records maintenance. As we had done in the card world, we normally make use of and acquire a record from a utility, and after that activity, the record may never be handled again. For the bibliogrpahic utilities and the Library of Congress, however, the essence of a machine readable record is its dynamic quality; that is, the record could be updated by subsequent work, superseding the prior use of that record by individual libraries.

Innovating tradition

With the advent of records maintenance in locally supported online files, academic libraries can design procedures which will add efficiency and consistency to their procedures. Through local support of an institution's MARC format records, the opportunity now exists to run new cataloging data against that file. The Library of Congress Cataloging Distribution Service (CDS) MARC tape subscriptions contain not only new records, but also a large percentage of revised records. Through use of batch programs, the records received from the Library of Congress can be compared with a libraries file of records. A record comparison sequence can then determine if the new record should replace the older version of the record already present in the file. This large scale comparison and replacement can help address our need to maintain current online records. At the University of Georgia Libraries we are pursuing our design specifications for such a maintenance facility.

Expanding tradition

The University of Georgia Libraries is pursuing a series of local procedures intended to assist three library functions:

1. MARC file records maintenance.
2. Identification of cataloging copy.
3. Collection development awareness.

As outlined generally above, the UGA Libraries intends to run the Cataloging Distribution Service weekly MARC Books tapes against our locally supported file of cataloging records. Based upon matching criteria and field by field comparison, we will then accept the more current version of the record; for example, content notes may have been added since our last use of the record.

After that procedure the remaining records from the CDS tape will be searched to identify cataloging copy for items which have been received in the Libraries. At present we run a batch process using six weekly tapes against an in-process collection (received but not cataloged) which is accessible by the public and searchable in the online catalog. Using standard number keys, the records from the six tapes are matched against items in that collection; when there is a match, the record is reported out for copy cataloging. Each weekly tape is run six times against the collection. Based upon defined levels of completeness for individual records in the system; e.g. level 1 records have been ordered; level 2 records have been received but not cataloged, etc., we wish to enhance this portion of the process in order to identify copy for all uncataloged items in the system. The details for disposition and workflow procedures for locating and handling the record will require further definition. Finally any unused records remaining on the weekly tape will be sorted by call number and distributed to our collection development staff for consideration.

Future tradition

It is generally recognized that the Linked Systems Project will have a tremendous impact on our ability to maintain records. Through the future development of the Linked Systems Protocols for bibliographic records, the opportunity is presented to run local holdings against a complete MARC data base. It is also important to remember that the Library of Congress MARC data base is now expanding far beyond Library of Congress cataloging production. Academic libraries should follow and support with great interest the progress of the National Coordinated Cataloging Program, whose objectives are:

1. To increase the timeliness of cataloging copy
2. To extend cataloging coverage
3. To reduce duplication of effort
4. To produce cataloging of a "national-level quality"

Assessing tradition

The four points described above read very closely to Herbert Putnam's annual report in 1900 - 1901; that is, our values and philosophy have been validated and affirmed by experience and consideration through the years; our great change and opportunity, however, is the technological capabilities which are now available to us. We may sometimes feel caught between powerful forces of finite resources and an almost infinite profliferation of information. Our confidence to face this condition, however, is based upon a belief in ourselves and in our ability to face these challenges with creativity and innovation.

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GENDER GAP IN THE USE OF LIBRARY TECHNOLOGIES: EVIDENCE, IMPLICATIONS, AND INTERVENTION

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Abstract. Do women shun computers? There is a sizeable body of research which supports the perception that in the area of computer literacy, there does exist a gender gap in the schools, home, and workplace. As libraries increase their use of computers to access information, the gender gap raises serious issues for librarians. With the advent of online catalogs, CD-ROM periodical indexes, and computerized databases coupled with decreased use of paper-based retrieval systems, libraries may be inadvertently providing access biased toward males. This position paper will discuss the gender gap which exists in the use of computers, the implications for library technologies, and intervention strategies for addressing the gap.

Keywords and Phrases. Computer Literacy, Computers, Female Patrons, Women and Computers.

Do women shun computers? And if so, what will be the impact upon the effectiveness of automated services offered by libraries? A sizeable body of research is developing which supports the perception that in the area of computer literacy a gender gap does exist in the school, home, and workplace.

The statistical evidence for a gender gap in computer use is strong. Boys use computers at school much more frequently than girls, especially on an elective, volunteer, or drop-in after school basis.[1] Such "computer inequity" usually begins at the middle school level when males outnumber females in using computers for both school work and recreation. Beyond taking required computer courses, females decline the computer opportunities available to them. In fact, programming classes have become predominantly the preserve of males. This lopsided trend continues through high school and college. In higher education this pattern is reflected in the percentage of women who earn degrees in computer science. In 1984, women earned only 37% of the bachelor's, 29% of the master's, and 10% of the doctorate degrees conferred in computer science.[2] A gender gap in the availability of computers in the home is clearly flagged in a study on the use of computers by University of Illinois students.[3] Undergraduates living in residence halls were asked, "During your high school years, did your family have a computer in the home?" Thirty-five percent of the students responded affirmatively. However, when analyzed by gender, 48% of the males in contrast to 25% of the females had a computer at home. Parents were also more inclined to buy computers for sons than for daughters. While more mothers than fathers had computer experience, that experience tended to be of a clerical nature. However, even this computer exposure did not seem to transfer from mother to daughter.

The lack of significant expertise has impaired the ability of women to compete effectively in the computer intensive marketplace where computer literacy in this context involves more than word processing skills. According to the January 1988 Department of Labor employment and earnings statistics, 32% of system analysts, 38% of operations and systems researchers, and 37% of computer programmers were female. Women were, however, over-represented in lower paying clerical jobs: 66% of computer operators and 87% of data entry keyers in 1987 were women.[4]

Even the media reflect the bias that computers reside solidly in the male domain. Examining large-circulation computer magazines, one study analyzed them for photographs of people working with computers.[5] Seventeen percent of the photos showed females actively using computers, while 35% of the photos showed females passively watching others use computers. The educational, occupational, and social consequences of the gender gap in a society in which economic and social power is increasingly defined by computer literacy are far-reaching. The implications for libraries and use of new library technologies are just as profound.

Keeping pace with the rest of the world, libraries have converted from manual to automated technologies for providing access to information. Paper-based retrieval has been replaced by new technologies such as online catalogs, online bibliographic databases, electronic mail and bulletin board systems, and compact disk databases for searching journal and report literature in virtually all academic disciplines. Such technologies have facilitated faster and easier access to information compared to manual systems. Yet the reluctance of women to use computers has the potential for creating a permanent underclass of library users whose access to information is hindered largely by insecurity or lack of experience with computers. Just as some educators have succeeded in developing intervention techniques to promote computer equity, thereby reducing the gender gap, so too must librarians seek creative ways to put female users on an even par with men.

Is there a gender gap in the use of computers in libraries? Little research has been done which directly addresses this issue. To date most user studies conducted have not targeted gender as a factor in computer use, but have chosen rather to focus on the naive versus the experienced user, user attitudes toward online catalogs, and the impact of instruction on the searcher's ability to use online catalogs. A study conducted at the Ohio State University compared library patrons who preferred the card catalog to patrons who preferred the online catalog.[6] Because both the card catalog and an automated catalog were simultaneously maintained, patrons had a choice between searching for materials with an online system or using a traditional paper-based card catalog. The variables chosen in the study were age, sex, class rank, previous online experience, formal instruction in the online catalog, and field of study. The strongest relationship found was between gender and online catalog usage. While males were almost evenly divided between their use of the online catalog and the card catalog, 77% of the females interviewed used the card catalog. Although 43% of the sample were women, only 10% of the online catalog users were female.

What role can librarians play in addressing the gender gap? The first step toward solving the problems created by a gender gap is to recognize that such a gap does exist. Research is needed to identify the scope and magnitude of the gender gap in the use of lirary technologies. Secondly, immediate measures can be taken to alleviate the gender gap in the areas of reference and instructional services, library hardware and software, and staff development and awareness.

Numerous instructional strategies can be borrowed from the education field and integrated into libraries' user education programs. Simple yet effective measures include:

1. Targeting females as a group needing specialized or different instruction. The notion of singling out females may seem to smack of sexism but bibliographic instruction practitioners have long acknowledged that library users have diverse instructional needs and have in response developed differentiated programs for international students, disadvantaged students, disabled patrons, and gifted students. We must be aware that there are various learning styles and preferences. Why not develop programs especially for women designed to address their previous experience with computers, their preferred learning style, and their mental models of computers?[7]

2. Eliminating sexist computer practices. Refrain from asking only males to demonstrate computer use or serve as computer assistants. During instruction sessions, target female students in the group. Ask a female to assist in the demonstration, thereby providing a subtle role model for the other women in the group. Avoid scheduling computer use on a first-come, first-served basis; males usually get there first. Avoid using "he" for the generic computer user; use "they" or "he" or "she" equally.

3. Making computer use as social as possible. Women have exhibited a preference for learning to use computers in pairs or trios.[8] Learning situations which emphasize group interaction and exchange are more effective with women than tutorial or programmed instruction. Create an environment which is welcoming and non-threatening to women. Librarians can begin by surveying the physical configuration of computers and workstations. Because women prefer to work in pairs or trios, arranging at least some computers in clusters or semi-circles will encourage group interaction and facilitate learning.

4. Stressing the importance of using the computer to access information during the course of instruction. Since women prefer to use systems in a task oriented context rather than exploring the potential of the system, they need to be introduced to the range of capabilities of the system which they then could apply to their tasks.[9] Otherwise, women may rely on interfaces and simple search strategies rather than develop sophisticated search skills which would allow them to utilize the full potential of online catalogs and electronic bibliographic databases.

In addition to these instructional strategies, librarians need to examine the hardware and software they are providing patrons for any inherent male or female bias. It is crucial for librarians to work with vendors and database producers to identify gender-based differences in learning styles and computer use. As knowledge of human-computer behavior grows and interface technology matures, there is an excellent opportunity to design software which goes beyond the traditional male-oriented linear approach to programming. Programming needs to be sensitive to non-linear models which are more conducive to women's learning styles. Hypertext and other recent developments in computer software allow for non-linear approaches to the computer. Libraries need to avail themselves of these developments which will be beneficial to all patrons, females as well as males.

Finally, libraries need to provide opportunities to develop computer equity for library staff. Libraries can develop in-house consciousness raising sessions on the gender gap -- its origin, its implications, and possible solutions. Such sessions could serve as a brainstorming mechanism for new and innovative approaches to eradicating the gender gap.

Additionally, libraries need to insure that a gender gap does not exist or is not allowed to widen among library staff. Initial orientation and continuing education in the use of computers, from office word processing to information retrieval systems, should be offered to all library staff.

Libraries are in a unique position in relation to the gender gap. Unlike so many fields in which computers play a prominent role, librarianship is a female-dominated profession. In 1987, 86% of librarians and 77% of clerical staff were female.[10] The library is full of potential role models for our female patrons. We can exploit these role models, insuring that computer responsibilities do not become dominated by male members of our staff. Libraries may also offer a unique, welcoming environment for computer use by women. At the University of Illinois, there are numerous open access computer labs scattered around the campus. At the sites located in residence halls and classroom buildings, approximately 80% of the users are males. At the site located in the Undergraduate Library, the users are equally split between male and female, reflecting the enrollment patterns. There are not significant differences in the layouts of the sites, the equipment available, the staffing patterns, or the hours of operation. The only difference seems to be the location. Whether there are aspects of the library which are non-gender biased or that the library is female gender biased it is impossible to say at this time. While we do not have the answers to these questions it is essential that we as librarians, begin to work towards resolving any potential gender gap which would contribute to the denial of access to information to half of our population.

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THE RELATIONSHIP BETWEEN CATALOGING DELAY AND THE CIRCULATION OF BOOKS IN A LARGE RESEARCH LIBRARY

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Abstract. This research report tests the hypothesis that there is an inverse relationship between the length of time a book is backlogged (cataloging delay) and its usefulness as measured by circulation. A 1500-item sample was taken from the population of books cataloged in the fall of 1979 at Davis Library, University of North Carolina at Chapel Hill. The sample was stratified into three groups characterized by "brief," "moderate," and "lengthy" cataloging delay. An 8-year circulation history for each group was recorded. ANOVA and chi-square tests of circulation and cataloging delay support the hypothesis.

Keywords and Phrases. Cataloging delay. Cataloging backlogs. Circulation. Book use. Obsolescence of books.

INTRODUCTION

It has been twelve decades since the Librarian of Harvard complained that "the work of the Library is necessarily falling into arrears ... and there are great evils resulting from it."[1] For each of these dozen decades, it is a safe bet that some research librarian somewhere in the United States has struggled with a chronic imbalance between the rate of acquisition and the rate of cataloging.

Complex cataloging codes and perfectionist catalogers must share much of the blame for the imbalance, concluded Osborn in 1941 in a famous article on the "Crisis in Cataloging."[2] Forty-six years later Intner amended Osborn's reasons for backlog growth to include the information explosion, the complexity of computerized cataloging, and declines in both processing budgets and the number of competent catalogers. She noted ominously that "we are experiencing a crisis in cataloging backlog buildup that makes the situation of the 1940s look mild by comparison."[3]

Statistics back up Intner's warning. In a recent survey of members of the Association of Research Libraries, Agnew found that 76% of the 88 respondents had backlogs more than 10 years old; 50% had backlogs greater than 15,000 volumes; and 4 respondents confessed to backlogs greater than 100,000 titles.[4]

In spite of the persistence and magnitude of the backlog problem, our library literature contains only a modest number of backlog studies. Most of these are practical examples of how to reduce backlogs through processing shortcuts, such as minimal-level cataloging. Very few studies address the backlog problem from a more fundamental and, in many ways, more interesting perspective: the impact of backlogs on library use. This perspective has two dimensions. One relates to the potential but unrealized use of backlogged books that are never cataloged and consequently never available. The second dimension relates to the actual use of backlogged books that are cataloged and placed on the shelves, but many months or years after they were acquired. The second dimension, with its connection between the time a book ages in a backlog and its eventual use, is the focus of this research paper.

THE RESEARCH QUESTION

The time spent aging in a backlog is one of three time intervals in the life of a typical book in a research library. Illustration 1 clarifies the definitions of the three intervals that are used in this study.

Illustration 1

POINTS IN THE LIFE OF A BACKLOGGED BOOK

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     Time -------->

A    B    C    D    E    F       G    H
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Point A is the date of publication of a book; B is the date the book is acquired by the library; C is the date the book is cataloged by the library and made available for circulation; D ... G are the dates of circulation transactions (if any); and H is the date the book is no longer available for use because it is withdrawn, or lost, or replaced with a new copy or microfilm, and so on.

For the purposes of this paper, the difference between dates A and B is defined as "acquisition delay." The difference between dates B and C is the time a book spends in a backlog. This difference is defined as "cataloging delay." Finally, the various differences between date C and dates D through H are various fractions of the time interval defined as the "shelf life" of a book.

This research paper tests the hypothesis that cataloging delay is inversely related to book use as measured by circulation transactions. To rephrase the hypothesis as a simpler question: Is it true that the longer a book is backlogged, the fewer times it will circulate once it is cataloged and shelved, assuming all other influences on circulation are controlled?

Of course it is impossible in practice to control all the extraneous influences on circulation in an non-experimental study, such as the one described here. However, it is feasible to pay special attention to the language of a backlogged book and its age when acquired (i.e., acquisition delay). These are two characteristics reported to be good predictors of book circulation in many studies, including the famous University of Chicago circulation study by Fussler and Simon.[5]

PREVIOUS STUDIES OF THE CIRCULATION OF BACKLOGGED BOOKS

Before describing the present research, it may be instructive to review two recent studies of backlogs and circulation that offer contradictory conclusions. In a study reported in 1984, Neville and Snee sampled 500 books from the 5,000 volume backlog of the Texas A & M University Library, cataloged the titles, and then recorded the circulation transactions after a shelf life of 9 months. They found that recently published books drawn from the backlog circulated more than older books and concluded that "long delays in cataloging are a disservice to patrons and reduce the value of expensive resources, since they will be used less fully than their potential."[6]

During 1986 and 1987, Miller and Ford analyzed 103 requests for books from a 25,000 title backlog at Trinity University. They noted a wide range of imprint dates among the backlogged books requested and concluded that "these statistics do not support the 1984 study by Ellen Neville and Antonio Snee that materials lose their usefulness with age."[7]

While both studies are worthwhile first steps toward a study of backlogs and circulation, neither conclusion can withstand too close a scrutiny. Each study apparently equates the time a book spends in a backlog to a surrogate time interval that is undoubtedly easier to measure. For Neville and Snee, cataloging delay approximates the interval between the imprint date and cataloging date. For Miller and Ford, cataloging delay approximates the interval between imprint date and the date of a request for use. For a researcher in a library that acquires and backlogs a substantial number of old imprints, these approximations will not suffice. The following sections describe a more precise method of measuring cataloging delay and relating it to circulation.

THE METHODOLOGY

The study was based upon the cataloging records and circulation histories of books in Davis Library, the main social sciences and humanities library of the University of North Carolina at Chapel Hill. (The main library was Wilson Library until 1984; afterwards, Wilson was replaced by a new facility called Davis Library. For simplicity, this paper refers to Davis Library for all time periods discussed.)

The staff of the Davis Library Catalog Department maintain a large file of order records for all titles cataloged on OCLC since 1975. Each order record is filed chronologically by date cataloged and includes the date the item was acquired as well as the date cataloged, in addition to author, title, imprint, language, and call number information. In short, the order record permits a precise measurement of the cataloging delay interval.

From the file of order records, a sample was taken of 1500 records for single-copy monographs cataloged from July through December 1979 and shelved in the stacks of Davis Library. The sample was stratified into three 500-item subsamples of "brief," "moderate," and "lengthy" cataloging delay. Brief cataloging delay was defined as a range of 0 to 2 months; moderate cataloging delay, 2+ to 12 months; and lengthy delay, 12+ months. In 1988, circulation histories for each item in the sample were obtained by locating the book in the Davis stacks and recording the circulation transactions stamped on a slip inside the front cover. Each circulation history encompassed a shelf life of 8 years. Circulation data were available for 1452 books, or 97% of the 1500-item sample.

ANALYSIS OF THE DATA

Implicit in the research question was the assumption that books subjected to only a brief cataloging delay will circulate more than books with a moderate delay and even more than books with a lengthy delay. The question was tested by comparing the mean circulations of the three delay periods, using the one-way analysis of variance (ANOVA) program of SYSTAT, a personal computer statistical package. The null hypothesis was that there was no significant difference among the mean circulations of the populations of books characterized by the three cataloging delays. The level of significance for all tests in this paper was alpha = .05.

The null hypothesis was tested against the complete sample of 1452 items with no control for language and acquisition delay. The test was repeated for subsamples of books categorized by English-language text, non-English text, acquisition delay of 2 years or less, and acquisition delay greater than two years. The results are summarized in Table 1.

The results in Table 1 indicate that the null hypothesis can be rejected for all categories of the sample except foreign language books. In other words, there is a significant difference in mean circulations among books with brief, moderate, and lengthy cataloging delays. In addition, this difference appears in the direction suggested by the research question; that is, books with brief cataloging delay circulate more than those with moderate delay and even more than those with lengthy delay. (A post-hoc comparison of differences between pairs of means, which is not discussed in this paper, supports this contention.)

This difference is especially pronounced for the sample category of all books. For this category there is a decline of 1.64 mean circulations between the brief and moderate cataloging intervals (3.75 - 2.11). These intervals are relatively close together in terms of their mean cataloging delays (1.1 months and 4.9 months, respectively) when compared to the lengthy delay (21 months). It is premature, however, to jump to the alarming conclusion that a book can lose 44% of its potential circulation by delaying its cataloging 5 months instead of 1. There is another factor at work here: language.

When only English-language books are analyzed, there is a modest .41 mean circulation difference between the brief and moderate cataloging delay intervals (4.73 - 4.32), a difference that is not statistically significant. The mean circulation difference between the brief and lengthy cataloging delay intervals for English books is significant, however, as predicted by the research question.

As shown in Table 1, the foreign-language sample category is the anomaly in this analysis. The remarkably low mean circulations of foreign-language books do not differ significantly among the three cataloging delay categories. In brief, the length of cataloging delay imposed upon a foreign-language book appears to have no relationship to its ultimate circulation.

The low circulation of foreign-language books may also explain the dramatic decrease in mean circulations between the brief and moderate delay intervals for the sample of all books. Is it possible that this decrease is related to a greater proportion of foreign-language books in the moderate cataloging delay interval? This question is answered in Table 2.

Table 2 shows that there are is a disproportionate number of foreign-language books in the moderate cataloging delay category, as well as in the lengthy delay category, when compared to the brief delay category. (The null hypothesis that these disproportions are not significant for the population can be rejected, according to the chi-square test). Indeed, the moderate category contains more than twice the number of foreign-language books than does the brief category. This disproportion suggests that it is the predominance of foreign-language items and not cataloging delay that is related to the dramatic declines in mean circulation shown in Table 1 for the category of all books.

The results of controlling for acquisition delay shown in Table 1 are interesting but less profound than those for the language differences. Not surprisingly, books already older than two years when acquired have a lower mean circulation for the three cataloging delay periods than do new books. More important for this study, however, is the indication that the relationship between increases in cataloging delay and declines in mean circulation still holds, regardless of the age of the book when it is acquired.

Finally, brief mention should be paid to the numbers under the R-squared column in Table 1. These numbers, called the coefficients of determination, indicate the proportion of the total variation in circulation that can be accounted for by the three cataloging delay intervals. For example, while the three cataloging delay intervals for the sample of all books are significantly related to decreases in mean circulation, cataloging delay explains less than 5% of the total variation in circulation. The relevance of this humbling statistic is discussed in the concluding section of the study.

CONCLUSIONS

The findings of this study parallel the conclusion of Neville and Snee that cataloging delays do reduce the usefulness of books and are a disservice to patrons. The analysis also suggests a few supplementary conclusions and speculations:

(a) A moderate cataloging delay of perhaps no more than 5 months may have little relationship to the ultimate circulation of most English-language books;

(b) Lengthy cataloging delays of greater than one year may have a significant negative relationship to the circulation of most English-language books;

(c) The low R-squared values for cataloging delay indicate that more sophisticated tools for analysis may be needed, such as a regression model of circulation that incorporates the combined interactions of cataloging delay, language, and subject;

(d) Finally, it may be helpful to consider the depressingly low circulation of foreign-language items, regardless of cataloging delay, in the context of "bibliographic triage," an idea introduced by Intner in a recent article. Intner explained that a triage approach to backlogged books "assumes there are patients who cannot be saved--books and other items that cannot be cataloged--and it forces us to identify them."[6]

The results of this study indicate that backlogged foreign-language books will not benefit from extraordinary efforts to shorten their time in an arrearage, assuming their benefit is proportional to their circulation. The question of whether research librarians facing rooms full of backlogged books can practice triage and ignore foreign-language items may be related more to the political climates of their research libraries than to the validity of this research study. But that is a topic best pursued in another paper.

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Table 1

TESTS OF THE DIFFERENCES AMONG MEAN CIRCULATIONS

Sample category	Number	Mean circulations for cataloging delay: Brief (0 to 2 months)	Moderate (2+ to 12 months)	Lengthy (12+ months)	p	R-squared
All books	1452	3.75	2.11	1.45	.000	.047
English-language books	754	4.73	4.32	3.16	.007	.013
Foreign-language books	698	.49	.52	.43	.661	.001
Books less than 2 years old when acquired	937	4.41	2.88	1.65	.000	.056
Books two or more years old when acquired	515	2.66	1.03	.903	.000	.051

Table 2

FREQUENCY DISTRIBUTION OF LANGUAGE AND CATALOGING DELAY

	Cataloging Delay			
Language	Brief	Moderate	Lengthy	Total
English	371	200	183	754
Non-English	112	279	307	698
Total	483	479	490	1452

Chi-square = 181.403; d.f. = 2; p = .000

AUTHORITY CONTROL:
TAKING AN AGE OLD PRACTICE INTO AN AUTOMATED FUTURE

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Abstract. The process of placing a behind-the-scenes authority file online has, in many cases, placed it into the hands of library users as a searching tool. Examination of transactions done in the online catalog at the University of Illinois at Urbana-Champaign, show what effect the authority file based retrieval system has on the results of user searching versus what information the users expect to find through the catalog. We have reached a point in library automation where we must reevaluate the concepts of online retrieval. It may no longer be adventageous to simply convert past card catalog practices into machine-readable form. Online authority files create a need to analyze more carefully how users approach the catalog and what information they expect it to provide.

In reviewing the literature, it is difficult to find a comprehensive definition of Authority Control. One author characterizes it as referring "...to the principal of uniform heading, that is, the principal that dictates that only one form of heading be used for each unique entity."[1] Other authors' definitions are based on the concepts that define the functions of a library catalog. These functions have been expressed as

1) the ability to allow a catalog user to find a specific item of information,

2) the ability to show what a library collection has on a given topic.[2]

In order to allow the catalog to carry out these functions efficiently, catalogers have developed a complex system of providing consistent grouping of information in the catalog. This system has been dubbed Authority Control.

To insure consistent operation of this system over time, catalogers developed a process of authority work which can be broken into five basic processes.

1) creation of authority records

2) gathering the records into an authority file

3) linking the authority file to the bibliographic file

4) maintaining the authority file and system

5) evaluating the authority file and system [3]

These processes are used by the cataloger to synthesize and create consistency in the catalog during the cataloging process. The list of headings or Authority File is often in the form of a card file when used in conjunction with a traditional card catalog, and most recently, is used in the form of a computer file in conjunction with an online catalog.

In both cases (card and online), the literature shows that the processes surrounding the evaluation of and the rules governing this Authority File have always been in control of the cataloger. In essence, Authority Control has been a behind-the-scenes operation. From Cutter to AACR2, librarians have created a myriad of rules and suggestions designed to provide guidance for establishing form of entry, creating cross references, and creating and maintaining authority files. In an attempt to adhere to this guidance "...technical services personnel have set up elaborate systems for checking and revising cataloging and authority data prior to their entry into the system."[4] Theoretically, inconsistencies in the grouping of information would be eliminated before the user attempted to find information through the catalog, and the function of the catalog would be preserved.

The advent of the online authority file has been a boon to catalogers. It has provided the opportunity for easier resolution of inconsistencies, the ability to store and easily retrieve large amounts of information, the ability to share information across libraries, and the ability to provide current updates to the system. However, the process of placing the behind-the-scenes authority file online has, in many cases, placed it into the hands of library users as a searching tool. It is this application of the authority file which will be examined at this time. From the users' point of view, is this an adequate method for organizing and retrieving information from an online catalog? Through the examination of transactions done in the online catalog at the University of Illinois at Urbana-Champaign, it has been possible to determine what information the users intend to find through the catalog, and what effect the authority file based retrieval system has on the results of their searching. This particular online catalog has a searchable online authority file which provides a link directly from each authority record to related bibliographic records. Because of this direct Authority File - Bibliographic File link, the structure of the Authority File influences all searches, even those done in the Bibliographic File.

Predictably, many of the unsuccessful searches present on the transaction logs result from a poor understanding of the structure or existence of a controlled access system. A classic example is the user who entered a search on the name Eliot as a subject in hopes of finding information about the author T.S. Eliot.

(see EXAMPLE 1) Since the user has not entered the complete heading as specified by the Authority File, the number of items retrieved is, of course, zero. The user then begins methodically entering variant spellings of the name Eliot and T S Eliot with various types of commands. After four minutes, the user has not retrieved any materials on T.S. Eliot, but has further confused the issue by retrieving unwanted authority headings and unrelated bibliographic items.

However, even when the user enters a search which correctly conforms to the authority structure, problems still arise. For example, a user will find a heading in the authority file which does not link to bibliographic information (i.e. a blind reference). This happens most often with name-uniform title authority entries. These headings represent a legitimate entry in the authority file, but provide only confusing results for a user searching the file in an attempt to find bibliographic data.

A third problem often results when a user must make a decision concerning which heading encountered in the authority file will link to the desired bibliographic information. A user searching for information about speeches by Martin Luther King, Jr. is faced with more than fifty headings when entering King, Martin Luther as a subject. (see EXAMPLE 2) The user must choose not only between subject subdivisions such as addresses, essays, lectures, study and teaching, oratory, criticism and interpretation, or views on nonviolence, but also uniform title headings such as speeches, works, and individual titles of speeches. Each heading is linked to only a few, if any, bibliographic items. It is a time consuming proposition for a user to constantly link and relink from heading to bibliographic information in order to find all the information needed. Also the user is forced to make decisions about what the terms mean, and which terms would be linked to the needed bibliographic information.

The problems mentioned are not due to the inadequacies with Authority Control or the rules which govern it. In fact the scenarios discussed probably would have had far happier endings in a traditional card catalog because Authority Control would have done its job of grouping information together. The first user would have been able to look up Eliot in the card catalog and quite quickly retrieve all information on T.S. Eliot without having to be aware of the heading prescribed by the Authority Control process. In the second instance, a card catalog would not contain headings that have no link to bibliographic information even though the cataloger's authority file might contain unused, yet established headings. Third, the user searching for information about Martin Luther King, Jr.'s speeches would find the information all in one card drawer which could all be browsed in entirety without the risk of missing pertinent information. The user would not be required to make a judgement concerning which heading may link to the sought after information.

The problems lie with the fact that a card based system which has worked well for decades has been simply transfered to an online environment. When placed into the hands of ordinary users, this system may require them to make decisions they are not prepared to make, thus inhibiting effective searching of the online catalog. We have reached a point in library automation where we must reevaluate the concepts of online retrieval. It may no longer be advantageous to simply convert past card catalog practices into machine-readable form. Online authority files create a need to analyze more carefully how users approach the catalog and what information they expect it to provide.

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EXAMPLE 1

```
term subject  elliot

RESULT: ZERO headings


term subject  elliott

3. City planning--Illinois--Elliott
1. Sewage disposal --Illinois--Elliott
2. Sewerage--Illinois--Elliott


term subject  eliott

RESULT: ZERO headings


term subject  eliot

2. Bible. Massachusetts --Versions--Eliot
3. Shakespeare, William, 1564-1616-- Influence--Eliot
1. Local history--Maine--Eliot--Periodicals

find author  eliott

RESULT: ZERO bibliographic items

find author  eliot

1. Bible. Massachuset. Eliot. 1663. The Holy Bible: Containing
    the Old Testament and The New. 1663. [836], [356] p.
    ocl77-255375

find author  t s elliot

RESULT: ZERO bibliographic items

find author  ts eliot

RESULT: ZERO bibliographic items

find author  ts elliot

RESULT: ZERO bibliographic items
```

EXAMPLE 2

term subject king martin luther

RESULT: 70 headings

select 1-10

3. King, Martin Luther, Jr., 1929-1968.
1. King, Martin Luther, Jr., 1929-1968--Addresses, essays, lectures
2. King, Martin Luther, Jr., 1929-1968--Assassination.
7. King, Martin Luther, Jr., 1929-1968--Criticism and interpretation.
5. King, Martin Luther, Jr., 1929-1968--Oratory.
4. King, Martin Luther, Jr., 1929-1968--Political and social views.
8. King, Martin Luther, Jr., 1929-1968--Study and teaching.
9. King, Martin Luther, Jr., 1929-1968--Views on nonviolence.
10. King, Martin Luther, Jr., 1929-1968. I have a dream.
6. King, Martin Luther, Jr., 1929-1968. Strength to Love.

find 3

RESULT: **41** bibliographic items

find 1

RESULT: **2** bibliographic items

find 7

RESULT: **1** bibliographic item

find 5

RESULT: **1** bibliographic item

find 4

RESULT: **1** bibliographic item

find 8

RESULT: **ZERO** bibliographic items

find 9

RESULT: **1** bibliographic item

find 10

RESULT: **ZERO** bibliographic items

find 6

RESULT: **ZERO** bibliographic items

THE USER GROUP PHENOMENON

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Abstract. Libraries first became significantly involved with user groups through turnkey integrated systems such as CLSI and large data management organizations such as OCLC. The next stage of library involvement was with groups for online information retrieval services. This led to the formation of user groups for vendor automated systems. This opinion paper discusses one library's experiences with three user groups. Considerable debate exists about the usefulness of user groups. Often user groups are considered only marketplaces for vendors and, given the wide diversification of individual institutions, the success of these groups may be unlikely if their focus is marketing and sales. In this position paper, however, we contend that user groups can be extremely useful for both the vendors and for the participating libraries.

Keywords and Phrases. User groups, library cooperation, OCLC, Inc., Faxon LINX system, Project for Automated Library Systems (PALS), vendors.

INTRODUCTION

User groups are a recent phenomenon in libraries. Libraries first became significantly involved with user groups through turnkey integrated systems such as CLSI and large data management organizations such as OCLC. The next stage of involvement was with user groups for online information retrieval services, such as DIALOG. The rapid growth in the use of micro computers and information retrieval services has led to the increased development of user groups for vendor automated systems.

Other than the OCLC Users' Council, the Georgia State University Library has been involved primarily with vendor user groups. This paper will discuss our library's participation in the OCLC Users' Council; the LINX Users' Group for Faxon's LINX System, an automated serials check-in system; and the PALS Users' Group started two years ago by the UNISYS Corporation and the users of PALS. We will discuss our experiences and opinions concerning user groups and the conclusions we have drawn with regard to their effectiveness.

HISTORY AND TYPES OF USER GROUPS

During the 1970's, computer technology spread so rapidly that formal channels of education were not adequate to keep up with the many changes. In 1986, Kugelmass wrote, "In the same way that, earlier in the century, automobile owners formed groups to service their cars, computer user groups arose to fill the gap between the need for information and its availability."[1] He also noted that there are more than three thousand groups in the United States, with a total membership numbering in the hundreds of thousands.[2]

User groups appear to have started in three different ways: groups formed by the users themselves; groups formed by the vendors; and, groups jointly formed by the users and vendors. Mulliner wrote, "Users' groups originated in data processing and spread to microcomputing. Now they have become a pervasive grassroots response to dealing with automated library systems and the vendors thereof."[3] He contends that, at first, these organizations were user-initiated, but with the cooperation of the vendor of the system. Communications was a primary function of the groups. As a group, shared concerns of the members could be expressed without being redundant.

Librarianship has a strong history of cooperation and networking. The development of user groups is a natural outgrowth of this professional and even human tendency to network. One of the principle reasons that these user-initiated groups were formed was the lack of adequate documentation for computer systems. Users were forced to seek help from their peers. They began to group together to compare notes, discuss hardware problems and inadequacies of documentation, exchange ideas and experiences, and rely upon each other's expertise. In 1984, Powledge wrote that, "The computer user's group has become a necessary, but frequently overlooked, component in the micro revolution, and it is certain to increase in importance as hardware gets more complicated, software becomes more elegant, and the number of computer users grows."[4] Marmion writes that "There are, in fact, groups that are run by and for librarians. One such organization is the AMIGOS IBM PC/300 User Group, to which sixty-two librarians . . . currently belong. They have their own by-laws, elect their own officers, and plan their own programs."[5] We suspect that, with the rapidly increasing interest and use of CD ROM data bases, yet another variety of user group will develop.

As we review our library's experiences with user groups, we find that the specifics of our implementation of the Faxon LINX System and the PALS' System reflect the generalizations found in professional literature. By joining our voice with other users, we have been able to stimulate enhancements and changes in our vendor automated systems which probably would not have come from one small voice making the request.

145

GEORGIA STATE UNIVERSITY'S EXPERIENCES WITH USER GROUPS

OCLC Users' Council

Georgia State University's first involvement with a users' group was with the OCLC Users' Council through membership in the Southeastern Library Network (SOLINET). The complex structure of OCLC Users' Council might be compared to the U.S. House of Representatives with delegates, elected by the membership of qualifying networks, serving as representatives to articulate the interests and concerns of their constituent members. There is very little direct contact between individual member libraries and the OCLC Users' Council. The OCLC Users' Council meets three times a year in Dublin, Ohio, and reports of their activities are distributed through a newsletter, at annual meetings of the networks, and at ALA Conferences. There has been some criticism that the OCLC Users' Council is not fully in tune with the needs and concerns of OCLC's 7,900 members. As with any group of elected persons, Council delegates can only speak to the needs and concerns of their constituents if they know of them. Several significant issues have been effectively addressed by the OCLC Users' Council in the interests of all members; the copyright of the OCLC database; tiered distribution, and network contracts. It is vital that general members make known their concerns and elect representatives who will represent them well.

In an effort to provide more user input into the future direction of OCLC, twelve committees have been appointed and nine user groups formed to advise on subsystem needs and on the special interest of various types of libraries. Membership on OCLC's Users' Council, the advisory committees, and other OCLC users' groups is an experience which dramatically broadens one's education and provides vital impact on the future direction of this massive utility. Every voice and every vote is important.

The Faxon LINX Users' Group

The Faxon Company's LINX Users' Group was our second experience with user groups. In 1984, the Georgia State University library chose Faxon's LINX and SC-10 system for online serials control and, since that time, has had representation at each of the annual LINX Users' Meetings.

The Faxon LINX Users' Group began with participants from the 13 test sites for its SC-10 Check-in System in 1980. the first annual LINX Users' Meeting was held in the fall of 1982, with an attendance of 45. The October, 1987 meeting marked the sixth annual meeting and was attended by 325 members.

Although the Faxon Users' Group is vendor sponsored, the meetings have been successful in promoting user needs and concerns for changes and enhancements to the system. For example, at the request of the users, the length of time the system is available has been expanded from six to seven days a week; the system now has a binding screen; Faxon is developing an interface for serials holdings between the system and our online catalog; and, the variety of management reports we can receive via the system has been greatly enhanced.

Perhaps, however, the greatest benefit of being a member of the LINX Users' Group is that users can share practical experiences of working with the system. Mulliner wrote that education was as important a function of user groups as communications. He wrote "Because member institutions are likely to be at different stages of implementation, the experiences of those who have implemented a function or enhancement can save considerable grief for those just preparing to do so."[6] For instance, we were asked to give a presentation on our implementation of the system at the Fifth Annual LINX Users' Meeting. At that meeting, we explained how we had developed a data input form to aid us in loading local information for each periodical title into the system. This form saved us hours of staff time. Instead of moving the periodical shelflist to the terminal as we loaded holdings information, or moving the binding rub files to load binding information, the form was carried to each of these points and the information recorded on it. The users of the LINX System found this very innovative, and we were asked to supply a copy of the form to libraries joining the system to aid them in their loading of local data.

The LINX Users' Meeting also provides a forum for Faxon to share its plans and future directions with its users. In an interview on April 12, 1988, with Rebecca Lenzini, former Manager of Faxon's Academic Services, she stated "We have made a serious effort to enhance the LINX system in accordance with the stated needs of the users' group, and the users' meetings have been the source of much of that input."

The PALS Users' Group

In 1984, we purchased the PALS Online Catalog from the Sperry Corporation, now merged with Burroughs and known as UNISYS. PALS is an acronym for the Project for Automated Library Systems developed at Mankato State University for the Minnesota State University System and marketed by UNISYS. We were one of the first academic libraries outside of Minnesota to implement the PALS system. We struggled with the implementation of the online catalog in 1985 and, in 1987, purchased and installed the online circulation module. The impetus for a PALS Users' Group arose as more libraries purchased the system and the need to share information on implementation problems and on the future development of other PALS modules were raised.

The first step toward forming a users' group was to have informal breakfast meetings, sponsored by UNISYS, at ALA mid-winter and annual conferences. As PALS users increased in number, the need for a more formal structure and meetings was evident. In January of 1987, the group elected a Chair, Vice-Chair, and an editor for a newsletter. The PALS Users' Group is still in its formative stages and is struggling with decisions on organization, frequency of meetings, issues to be discussed, and means of gathering input from its members. UNISYS has sincerely sought input from the users on the development of PALS. As a result, significant changes have been made in product development, marketing, and educational support. The opportunity to share concerns and to discuss problems with other users has been a major benefit to us. At ALA's mid-winter conference in San Antonio, Texas, in January, 1988, the PALS Users' Group strongly objected to the direction UNISYS had taken in the development of PALS' modules, and to the lack of documentation and educational support. UNISYS is now in the process of redirecting its efforts, and hiring qualified and knowledgeable staff to provide documentation and support for its users. We can make a difference.

SUMMARY

Considerable debate exists about the usefulness of user groups. Often these groups are considered only ideal marketplaces for vendors to promote their products. Also, some group members feel that the wide diversification and varied needs of individual institutions make the success of user groups impossible. Our conclusions are quite the contrary. We have found the extended network of colleagues provided through user groups a major benefit for advice and discussion on many issues. We have also discovered that, while there may be wide diversification among members, in some areas, there are often commonalities across other characteristics.

The literature does warn that joining a users' group will not solve an organization's problems. However, the groups can act as sounding boards for sharing and soliciting opinions. The literature on user groups often discusses the power that they can carry and exercise.

Brandt, in his article, "Joining Forces: Library Users Groups," writes, "Using newsletters and electronic bulletin boards, some small groups grew into clubs or societies so well organized that many companies began to sit up and take notice."[7] He continues, "This 'control-by-support' allows for positive and creative directions and ensures that input comes from all levels in the library system."[8]

The phenomenon of user groups, in our opinion, has been beneficial, not only to libraries, but also to the vendors of the various products and systems they offer. By working together, and sharing the responsibility of meeting the needs and concerns of both the vendors and the users, a better and more efficient product and service can evolve. This does require sensitivity and understanding between all parties concerned, but it is not an impossible goal to achieve.

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AUTOMATED WORKSTATIONS FOR PROFESSIONAL CATALOGERS: A SURVEY OF ARL LIBRARIES

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Abstract. A survey of ARL libraries was conducted in the spring of 1988 to determine how many libraries had, or soon would have, individual automated workstations for their professional catalogers. The number of libraries expecting to acquire these workstations at some future time was determined as well. The study also covered: (1) costs and types of equipment being used or considered for this purpose, (2) current and projected uses of automated workstations, and (3) their impact on cataloger productivity, processing costs, and the quality of catalog records.

Keywords and Phrases. Automated workstations, professional catalogers, original cataloging, research libraries

INTRODUCTION

When libraries first began using bibliographic utilities for cataloging some years ago, the prediction was made that catalogers would have their own terminals at their desks. That prediction would become a reality sooner for paraprofessional catalogers doing derived or copy cataloging than for professionals doing primarily original cataloging. The costs of providing each professional cataloger with an OCLC terminal, for example, would have far exceeded the benefits in most libraries.

Only recently, as microcomputers have become more affordable and local online catalogs more common, have libraries finally begun automating this "last frontier"--the work done by professional catalogers. In fact, an increasing number of libraries are taking this next step along the automation continuum. However, the automated workstation (a terminal or microcomputer, possibly with peripherals attached) still represents a significant investment, which presumably must be justified by a significant benefit.

The purpose of this study was (1) to find out which members of the Association of Research Libraries already have provided (or will soon provide) automated workstations for their professional catalogers and (2) to examine expected and actual effects of this change. A third goal was to determine how many of the remaining ARL libraries intended to acquire automated workstations at some as yet unspecified time.

THE LITERATURE

As Randall Scott wrote in "An Original Catalog Librarian's Perspective on Library Automation,"

> There is very little to be found in current library literature about the life of the original catalog librarian, or about the adjustments we are making in the new electronic order of things.[1]

Because having automated workstations for professional catalogers is a relatively recent phenomenon, I found only a few articles on related issues and none on that specific topic.

Scott discusses the creation of electronic workforms on IBM PCs by original catalogers at Michigan State University.[2] Susanne Nevin reports on GTO-RLIN testing (Generic Transfer & Overlay) at the University of Minnesota libraries as part of their planning for implementation of NOTIS.[3] And Marie Bednar gives an excellent description of the effects of automation on cataloging operations at Penn State, where all staff have been creating catalog records directly on the local online system (LIAS) since 1981.[4]

THE HYPOTHESIS

My hypothesis was that only a small minority (perhaps less than 10%) of ARL libraries would already have terminals or microcomputers at their professional catalogers' desks but that the majority of ARL libraries would expect to have this equipment at some future time. I expected cost to be the primary reason why more libraries were not getting these automated workstations now. I also assumed that the libraries getting workstations would need to justify the expense by showing increases in productivity and/or reductions in processing costs as a result of automation.

DATA COLLECTION METHODS

I selected the membership of the Association of Research Libraries (as of Feb. 1988) as the population to be studied and contacted the "head of cataloging" in each ARL library (with the exception of the Library of Congress) during March and April 1988. Not every library had a position clearly defined by the title "head of cataloging." Therefore, some of the survey respondents had broader or narrower responsibilities than that title implies or were primarily responsible for areas other than cataloging, e.g., automated systems.

A telephone survey was used to sort the ARL libraries into four groups with respect to individual automated workstations for professional catalogers:

Group A	Already automated
Group B	Being automated soon

Group C	Could not say when, but expected to automate
Group D	Did not expect to automate

A follow-up questionnaire was designed for Group A asking for information about specific types of equipment, costs, etc. This questionnaire was modified slightly for Group B to explore expected conditions when automation was completed. A third questionnaire was used for Groups C and D to examine alternatives to automated workstations and related issues.

DATA ANALYSIS

The data collected in both phases of the study was analyzed manually. Of the 118 ARL members, only one declined to participate in the telephone survey. Since I was aware that the Library of Congress was in the process of conducting an in-house experiment with online cataloging, I did not include LC in my study at this point. The responses of the remaining 116 libraries could be broken down as follows:

Group A	15	13%
Group B	15	13%
Group C	60	52%
Group D	25	21%
Other	1	1%
TOTAL	116	100%

(See Table 1 for a list of libraries in Groups A and B.)

When I asked each of the telephone respondents whether he or she would be willing to answer a follow-up questionnaire by mail, two people declined. I did not send a questionnaire to the library in the "Other" category (University of Illinois) since the questions were primarily intended for libraries with centralized cataloging operations. Also, no questionnaire was mailed to the library where I work (a Group C library). Of the 112 questionnaires mailed, 93 (83%) were completed and returned. The responses broken down by group were:

Group A	11 of 14 returned	(79% of group)
Group B	13 of 15 returned	(87% of group)
Group C	49 of 58 returned	(84% of group)
Group D	20 of 25 returned	(80% of group)

Equipment

In the 11 libraries which have already automated, there are 8 different types and 12 different models of terminals or microcomputers being used at professional catalogers' workstations. The 8 types included DOBIS, Geac, IBM, Northern Telecom, OCLC, Telex, Wyse, and Zenith. In the 13 libraries being automated soon, there are 6 different brands of terminals or microcomputers being considered for that purpose. Less than half of the Group A libraries have printers at the catalogers' workstations.

In Group A, hardware costs quoted per workstation ranged from a low of $600 for a Wyse WY50 and a Hewlett-Packard Thinkjet printer to a high of $3,478 for a Geac terminal and Epson printer with a Geac interface. In Group B, expected hardware costs ranged from $200 for a Wyse model 20 or 30 to $5,500 for an OCLC M310F workstation plus Epson printer, Hitachi CD-ROM reader, and Hayes Smartmodem. Most of the workstations being used or considered were equipped for $2,000 to $2,500.

Six of the 11 libraries in Group A did not get new furniture to accomodate their computer equipment. However, 8 of the 13 Group B libraries expected they would get at least some new furniture for use with their equipment.

In response to the question, "Is there a CD-ROM player in your area?" which was addressed to all groups, only 18% said Yes. Uses cited included BiblioFile, Books in Print Plus, AGRICOLA, retrospective conversion, and expected use of CDMARC Subjects (Library of Congress Subject Headings on CD-ROM).

Usage of Equipment

All groups were asked whether ALL, SOME, or NONE of their professional catalogers created new records at a terminal or microcomputer in lieu of writing or typing paper workforms when their own workstations were not automated. The majority of libraries in all groups reported no catalogers doing direct input. However, when the 24 libraries in Groups A and B were asked the same question with respect to the situation (or expected situation) after automation, 11 reported ALL and 7 reported SOME catalogers doing direct input.

When this issue was discussed during the telephone interviews, most respondents considered direct input of data by catalogers to be more efficient and thought it might reduce the incidence of error. Some felt, however, that having another person do the inputting imposes a measure of quality control which is lost when catalogers input their own data.

The catalogers who are doing direct input in Group C and D libraries must share workstations. Fifty-three percent of the Group C libraries and 47% of the Group D libraries said their professional catalogers have blocks of time scheduled for terminal use. The number of hours scheduled varied greatly from 1 to 15 hours per week. Some respondents felt sharing made the most efficient use of terminals, while a number of others complained about the nuisance of having to schedule time and batch work.

When I asked how catalogers had responded to doing more work on computers, the typical answer was that most catalogers reacted favorably, even enthusiastically, to the change. Some of the more experienced catalogers, however, were reluctant to accept the new technology.

A related trend identified during the telephone interviews is the move toward creating

TABLE 1

GROUP A LIBRARIES

(Professional catalogers already have automated workstations)

- University of California, Berkeley
- Canada Institute for Scientific and Technical Information
- University of Florida
- Florida State University
- University of Guelph
- University of Hawaii
- University of Minnesota
- National Library of Canada
- National Library of Medicine
- Newberry Library
- University of Notre Dame
- Queen's University
- Smithsonian Institution Libraries
- University of Utah
- Vanderbilt University

GROUP B LIBRARIES

(Professional catalogers soon will have automated workstations)

- University of California, Irvine
- University of California, Los Angeles
- University of California, San Diego
- University of California, Santa Barbara
- University of Chicago
- Indiana University
- McGill University
- University of Michigan
- National Agriculture Library
- University of Oklahoma
- Virginia Polytechnic Institute and State University
- University of Virginia
- University of Waterloo
- Wayne State University
- York University

cataloging records on the local online system, with or without contributing them to a bibliographic utility. Libraries are evidently finding it less cumbersome and/or less costly to build their local databases in this manner. Many continue to use the bibliographic utilities for copy cataloging and for finding information to assist original catalogers. As more libraries start using local online systems, this trend could have a negative impact on the utilities if fewer members are contributing new records and the network databases become progressively outdated. I had the impression that libraries want to contribute their records to the networks if they can do so economically and efficiently. At present, compatibility of data can be a problem if a library tries to have locally created records tapeloaded into a bibliographic utility's database.

Related Issues

Productivity and quality were two areas of concern expressed during the telephone interviews. When asked how the productivity of professional catalogers was affected by having terminals or microcomputers at their desks, 4 Group A libraries said productivity had increased; and 2 more said productivity decreased initially but later increased. Two others felt productivity was not affected and 3 were not yet able to assess the impact.

Among Group B libraries, 5 expected productivity to increase, and 3 more expected an increase following an initial decrease. Four felt productivity would not be affected, and 1 did not respond to the question.

When asked if any steps had been taken recently in their libraries to help professional catalogers improve their productivity and/or to reduce the cost of original cataloging, 72% of the libraries in Group C and 58% of those in Group D said Yes. When asked to describe specifically what had been done and how well it worked, these libraries provided some interesting comments. The three most common methods cited were: (1) shifting work being done by professional catalogers to paraprofessionals, (2) reviewing departmental organization, job descriptions, procedures, etc., and (3) streamlining authority work. Other ideas included minimal level cataloging, individual goal setting, provision of more computer equipment, and having catalogers do their own inputting.

When asked if it had been (or was expected to be) possible to cut costs in any area as a result of purchasing automated workstations, 4 Group A libraries said Yes; 5 said No; and 2 were not sure. Of the Group B libraries, only 2 said Yes; 7 said No; 2 were not sure; and 2 did not respond to the question.

When asked how the quality of information being added to the library's catalog had been (or was expected to be) affected by professional catalogers having terminals or microcomputers at their desks, 5 of the Group A libraries said the effect was positive, 5 said there was no effect, and 1 was not sure how quality had been affected. Among Group B libraries, 8 expected a positive effect, and 5 expected no effect.

LC's Online Experiment

When I talked with Robert M. Hiatt at the 1988 American Library Association annual conference, the experiment with online cataloging begun by the Library of Congress in April 1987 was coming to a close. About 170 staff members from all areas of cataloging participated in the test.

The most positive reaction came from the descriptive catalogers who entered data directly online, creating no hard copy. Productivity in this area, which decreased when the test began, had not returned to its former levels by the end of the test--not surprising, perhaps, given the complexity of operations at LC. Some catalogers had terminals at their desks, but others had to share equipment. Carrying materials needed for cataloging to terminals away from their own desks proved to be extremely inconvenient.

The most negative reaction came from staff responsible for assigning Dewey numbers. Unlike descriptive catalogers who create the bulk of the cataloging record, the Dewey staff members add only one element of information to the record. Consequently, they found working online very detrimental to their productivity.

The reports evaluating the online experiment will be discussed at LC and a decision will be made whether or not to proceed with online cataloging.[5]

CONCLUSION

Twenty-six percent of the ARL libraries surveyed already have or soon will have automated workstations for each of their professional catalogers. An additional 52% expect to have these workstations sooner or later, the timing being largely dependent on the cost of automating and budget conditions. The remaining 22% did not expect to get automated workstations but were not necessarily anti-automation. Some simply felt that a one-to-one ratio of catalogers to terminals was not desirable and that their shared-workstation arrangements were working quite well.

It is perhaps too soon to draw any conclusions about the effect automated workstations for professional catalogers will have on the catalogers' productivity and the quality of the records being added to libraries' catalogs. However, it is encouraging that a few libraries did report automation had a positive impact on these areas and no libraries reported a negative impact. If automating catalogers' workstations does not significantly affect productivity or quality or allow libraries to cut processing costs, will libraries still automate? They may, because as at least one respondent put it, "Automated workstations are the wave of the future."

The theme of this conference is building on the first century. One of the major accomplishments of that century has been the progress made toward cooperative cataloging. Standardization has been the byword, beginning with the distribution of LC catalog cards and continuing through the development of bibliographic utilities and network standards.

As we reflect on the last 100 years, we may wonder how we are going to continue to build on the foundation that has been laid. There are indications that libraries may be moving away from what has been so laboriously constructed to date. If the trend toward abandoning the use of bibliographic utilities for cataloging in favor of local systems continues, dedication to standardization is likely to diminish. A definite lack of consistency is already very apparent when one considers the variety of equipment and systems being used, not only at automated workstations for professional catalogers, but throughout libraries. The computer systems once hailed as the ultimate facilitators of library cooperation are now the very things which may threaten, in one sense, the past century's accomplishments.

It is time to reevaluate our achievements and reassess our goals. We cannot go back, but it is also very likely that we cannot continue to go forward along the same path we have been following for a number of years now. We must decide which elements from our past will serve us well in the next century and hope that participants in ACRL's bicentennial meeting will have cause to praise us for our wisdom and foresight.

ACKNOWLEDGEMENTS

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151

THE POWER OF THE NEW MICROCOMPUTERS: CHALLENGE AND OPPORTUNITY

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Abstract. In the next few years, the power and usability of the microcomputer will increase immensely. Current developments that are contributing to this growth are CD-ROM, the 80386 microprocessor, and the graphic user interface. As the information handling capability of the computer grows with these new developments, the microcomputer industry will increasingly market information products to end users. As this happens, the library will be challenged to provide users the same ease of access to information that they have on their own computers.

Keywords and Phrases.
CD-ROM
Computer-user interface
Macintosh computers
IBM computers
80386 microprocessor
Information workstations

The role of the library is changing rapidly in the kaleidoscopic world of contemporary information access. Computers are altering the flow of information, changing the way old services are performed and creating totally new services. Commercial vendors are challenging the role of the library on many fronts, including online searching, document delivery,[1] electronic publishing,[2] acquisitions,[3] and user-friendly access to books.[4] And on campus, with the increasing computerization of information, the library will likely take on characteristics of the computer center if it is to survive.[5,6]

Underlying these rapid changes in the information environment is the astonishing growth in the power of microcomputer hardware and user-friendliness of microcomputer software. In 3 to 5 years microcomputers will have the power of today's minicomputers and even mainframes, without the accompanying difficulties of these larger systems. Veaner has noted the accelerating growth in microcomputer power and usability -

> Mysteriousness and inconvenience, once the hallmarks of the computer, have been almost completely eliminated...computers and software are gradually giving users greater and greater power to cut through bureaucracy, formality, and red tape, to extract what they want from data files and information systems.[7]

Veaner also points out the threat to traditional libraries posed by the power of the microcomputer. He contrasts the often-noted[8] user-unfriendliness of traditional libraries with the new user-friendliness of the microcomputer. Young faculty and students who have extensive experience with the powerful new, user-friendly computers will bring pressure on the library to provide information in a form as easy to use as it is on their microcomputer. If we fail to do this, he says, other agencies, on campus and off campus, will take over our role.[9] He notes that just as publishers have learned to bypass the library and market textbooks directly to faculty, information providers will likely also bypass the library in marketing electronic information products to end users.[10]

In this paper, I will try to show how recent hardware and software developments are rapidly making the bureaucracy-fighting, user-friendly microcomputers described by Veaner into true information workstations which will give users the power to manage huge data files themselves. The microcomputer advances I will discuss are CD-ROM, the 80386 microprocessor, and the graphic user interface. In the course of discussing these advances I will suggest that the microcomputer-information industry is coming to realize that information handling in the near future will be closely allied to microcomputer use, and that the industry will therefore be in the business of selling information products as much as computers.

CD-ROM

CD-ROM is clearly the first giant step in transforming the microcomputer into a bona fide personal workstation. Wavada, in resonance with Veaner, warns us that CD-ROM should be seen as "the harbinger of the personal research library,"[11] which will make it possible for end users to manage their information independently of the traditional library. He says that although in its early stages CD-ROM is being marketed to libraries because librarians are already familiar with computer literature search techniques, it will be sold mainly to end-users once it becomes established (a view shared by Schill).[12] Wavada states clearly the threat posed for the library by CD-ROM:

> In [the] coming era, libraries will confront competition from creative entrepreneurs promising personalized research libraries that no longer require the one-to-one contact that has kept the information professional at the center of the informing process.[13]

Several threads of evidence confirm Wavada's prediction that CD-ROM will be aimed at the general information user, and particularly the user of microcomputers. One indication of this is the pattern of reporting of new developments in CD-ROM - The library literature has certainly had a fair amount on CD-ROM in the last 2-3 years, but it can't rival the coverage in the microcomputer literature. With at least four weeklies and numerous monthly journals, which are heavily supported by advertising revenue, the microcomputer literature is now the place to go to find the most thorough and timely coverage of new CD-ROM developments.[14] Another indication of the growing interest in CD-ROM in the microcomputer industry is the support given the medium by the Microsoft software company - Microsoft has sponsored four annual conferences on CD-ROM, and has lent support to CD-ROM in several other ways.[15] Finally, I think it's notable that the user interface of CD-ROM systems in many cases borrows heavily from the interface used in other microcomputer applications. This may seem like a small thing, but it will certainly make it easy for the general microcomputer user to learn to use CD-ROM.

THE 80386 MICROPROCESSOR

In April, 1987 IBM announced their new line of microcomputers, the PS-2's, some of which are based on the 80386 (generally shortened to 386) microprocessor. There has been some confusion about the nature of these new machines,[16] in large part because there is not yet an operating system to take advantage of the great power of the 386 processor. But once there is an operating system developed and adopted as a standard, the power of the 386 machines will far surpass the DOS-based IBM-PC. Indeed, they will approach the power level of current minicomputers and mainframes, and will certainly have profound effects on all aspects of microcomputing.[17] Of particular significance for information handling, they will revolutionize database software,[18] making it possible to maintain files approaching the size of CD-ROM databases. Software enhancements made possible by the power of the 386 processor will make database systems very easy to use - Artificial intelligence features, for example, will make searching easier, [18,19] and hypertext features will make it easy to customize the database interface for the needs of specific users.[20] The power and ease of use of database systems on 386 machines will certainly accelerate the trend which has emerged with CD-ROM, for the micro-computer-information industry to market products directly to end-users.

THE GRAPHIC USER INTERFACE

As anyone knows who follows the current microcomputer scene, the name of today's user-friendly microcomputer is Macintosh. With its icon-based graphic user interface, the Mac has come to have the image of "the peoples' computer." Indeed, Veaner's description of the all-powerful computer that allows users to "cut through bureaucracy, formality, and red tape" almost sounds like it's right out of an advertisement for the Mac. But the user-friendliness of the Macintosh is much more than mere advertising hype - The Mac truly is popular, as anyone can easily see by walking into the public microcomputer cluster in our library and comparing the number of students using Macintoshes and IBM PC's. Despite it's popularity, the Macintosh has until recently not affected us much in the library. It has been mainly a graphics machine, and has not tried to compete with the IBM PC as a text-based workhorse. In the library, we deal mainly with text, of course, so the IBM has suited us just fine. But the dichotomy between the graphic Macintosh and the text-based IBM is breaking down. The IBM side of the microcomputer industry has seen what an extraordinary success the Macintosh graphic interface has been, and the new 386 machines will therefore have a similar (though as yet undetermined) graphic interface.[21] The tremendous power of these new machines, then, with CD-ROM and 386 processors, will be harnessed with the proven user-attractiveness of the graphic interface. Seen from this perspective, a recent ad for the Macintosh sounds especially ominous. In the February 1987 issue of Newsweek on Campus magazine,[22] hiding in the midst of a verbose sales pitch for the Mac, listing its many virtues for the busy college student, is the phrase, "There's also software that can tie you into a wide variety of databases...so you can check out of the library for good (underline added)." At the time this ad appeared, we may have thought we could dismiss its thinly-veiled attack on the library as a sales pitch for one particular computer, the Macintosh. But I would predict that just as the microcomputer industry is borrowing the idea of the graphic interface from the Macintosh, it will also latch on to Apple's marketing strategy for the Mac, featuring prominently the information independence made possible by the new computers. I am not suggesting that the industry will explicitly mention the library in their marketing campaigns; indeed they're probably not thinking much about us as all. But what I am saying is that the selling of the new computers may indeed have the effect of drawing our users very close to "checking out of the library for good."

CONCLUSION

As I've tried to show, Veaner's prediction of the powerful, user-friendly microcomputer is fast becoming a reality. With CD-ROM, the microcomputer industry has discovered the information market, and they will certainly continue to mine its rich vein when the 386 processor and the graphic interface give users even more information handling power. Though I've discussed new microcomputer developments separately, in reality all of them will work together. When full-powered 386 computers become available, for instance, their powerful features will be used in combination with CD-ROM. The graphic user interface will be an especially potent addition to the mixture. It will bring the masses to information handling just as the Macintosh has brought the masses to microcomputing. CD-ROM and the 386 processor will give users the power to become information-independent, but it's the graphic user interface that will harness the power, making the personal information workstation a reality.

So where does all of this leave us in the library? How can we meet the challenge of the new information environment? The answer is apparent - As Veaner[23] and others[24] have said, we need to learn to combine the unique organizational skills we have as librarians with the vast power of the computer to forge a new role. Evelyn H. Daniel put her finger on our new mission in a recent forum on reference service,[25] when she suggested that instead of perfecting our individual question-answering skills, we need to spend our time and energy designing computer systems to help us interpret the library to users.

There are certainly signs that we are getting the message and using the new power of the microcomputer.[26] But we must accelerate our efforts if we are to survive. Particularly with the advent of the graphic interface, we need to learn about the power of computer interfaces.[27] Systems such as Hypercard, for instance, offer a gold mine of interface tools; Hypercard is particularly notable for us because its "card metaphor" is so much like our old friend, the card catalog.[28]

Summing up, I think we must see the powerful computers of the future not as a threat, but as a great opportunity. As Newhard[29] says, our great challenge is to lead users through the complex new world of information to the higher lever, of knowledge.

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IV.
BIBLIOGRAPHIC INSTRUCTION

IMPERATIVES FOR THE SECOND CENTURY: INFORMATION LITERACY AND THE QUALITY OF UNDERGRADUATE EDUCATION IN AMERICA

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Abstract. If today's students are to compete and excel in their professions, they must become properly sophisticated in their knowledge of and skill in information retrieval and management. Competence in these areas can be called 'information literacy,' a broader concept than computer literacy. Mann Library has been concerned with information literacy since 1986 and has developed and implemented the goals and procedures for a comprehensive prototype program This paper presents a rationale for information literacy instruction, briefly reviews key articles, and describes Mann Library's efforts and plans. This model could be incorporated in other academic libraries.

Keywords and Phrases:. Information literacy, user education, undergraduate instruction, curriculum planning and development

INTRODUCTION

As we ponder the next century, the library of the future and our role in higher education, it is important to remind ourselves - as a pinch on the cheek would - that certain elements will not change. Concerns over the quality of undergraduate education in America will continue and we will try to improve by incorporating new ideas and techniques. Some of these will flourish and become part of the curriculum and others will wither, silently becoming footnotes in history. Within libraries, we will still have users with information needs; we will still have collections which, we hope, will meet those needs; and we will still have the professional staff who can offer the services which will link users and collections together.

Elements which will change are the various demographic, social, economic and technological components of our common futures. Changes in these areas will have profound impacts on our professional lives; they will, more or less, determine our focus and priorities. We must positively respond to these signals and decide on a course of action which will not alienate us into an ineffective, archival backwater.

We are now living in the post-industrial era. The driving force in this new age is not manpower, machines, or manufacturing, but ideas, innovations, and information. We are beginning to deal with an increasingly global information culture, where information is a valuable commodity. Those who have access to it, or know how to gain access to it, are at a competitive advantage. This is the milieu that our students will enter. Their decision making skills and their subsequent ability to positively contribute to their professions and to comprehend, analyze and propose solutions to societal problems, will depend in part upon their ability to find and use information.

How can we respond to these signals, select a course of action, and impart these skills and information gathering techniques? Users and collections, and collections and librarians, are firm dyads, but the triumvirate of users, collections, and librarians is uneasy. We librarians have often been the 'odd man out': we have not been assertive and users typically access the rich diversity of our collections without benefit of instruction. The majority of our users are unaware and blinded by what they do not know; instructing them, until recently, has not been a key agenda item for the majority of libraries or librarians. As a profession, we have been unable to articulate an innovative and encompassing user education program designed to produce a society which is information literate.

PREMISE

User education has, over the years, expanded and evolved in concept and scope from library orientation to library instruction, and from bibliographic instruction to library literacy. We would like to suggest that it is time for us to go beyond -- again. Information literacy is the next, and only logical extension, of our particular responsibility to produce students who understand the importance of information and who have the competence to locate, evaluate, and manage it. This state of knowing, information literacy, is a necessary and compelling expansion of the traditional notion of literacy; its development, however, cannot be left to evolution. It is as fundamental as reading and writing and therefore must be taught.

The concept of information literacy has been addressed before. In 1984, Forest Woody Horton, Jr. discussed the differences between information literacy and computer literacy. He wrote that information literacy "means raising the level of awareness of individuals and enterprises to the knowledge explosion, and how machine-aided handling systems can help identify, access, and obtain data, documents, and literature needed for problem solving and decision making." (1) An insightful report from Harvard University, also written in 1984, called for the development of a 'new literacy' - "the bundle of information skills that may be required to function in society" (2) and the following year, Patricia Seen Breivik offered a working definition of information literacy and described it as "a vision in the making." (3)

In perhaps the best descriptive piece yet written on the subject, William Demo called for "a new intellectual skill, an 'information literacy,' that will enable us to be the masters of the new communications and information technologies..." (4) and in 1987 a symposium, "Libraries and the Search for Academic Excellence," recommended that "information literacy must be a product of any undergraduate education." (5) In 1987 Harold Shill wrote an excellent article in College and Research Libraries. He called the question and made a declarative statement: "Librarians must decide whether they will provide bibliographic instruction as traditionally defined or a broader set of skills and knowledge relevant for lifelong self-education in an increasingly electronic environment." (6) Jill Fatzer, writing in the May 1988 issue of the Journal of Academic Librarianship, described information literacy planning in Ohio and concluded that "further work is required to realize the plan in the classroom." (7). And most recently, in January 1989, the ALA Presidential Committee on Information Literacy, chaired by Patricia Senn Breivik, released their final report, "which recommends education reforms and new roles for libraries and details the importance of information literacy to an informed citizenry and effective businesses "(8).

These reports and articles describe needs, definitions, and plans which contribute to our overall level of general understanding, but they all lack action. They talk about information literacy but do not apply the concept in the classroom or offer a tested model for others to emulate.

PROGRAM DESCRIPTION

In recognition of the technological and social changes in our society, and in response to the need for improving the quality of undergraduate education, in the fall term of 1986 the Albert R. Mann Library of Cornell University began revising our former bibliographic instruction program and introducing substantive changes in both the philosophical and content areas of our instructional efforts. From that date, we have been developing a comprehensive curriculum for information literacy which is being incorporated into our undergraduate programs.

The goal of our program is to ensure that our students are equipped with the knowledge, motivation, and scope of abilities necessary to become aware and sophisticated producers and users of information. We want to improve our students efficiency and effectiveness by teaching them superior information management and retrieval skills.

Our action plan to design, implement, and evaluate an information literacy program incorporated these strategies:

1. Identifying the core elements of information literacy and organizing them into a cohesive curriculum
2. Forming specific pedagogical strategies and techniques for transferring information literacy concepts and skills in the classroom
3. Analyzing the curriculum and majors to determine the most appropriate points for inserting our programs as natural inclusions in established classes
4. Implementing the curriculum and extending it to the same population of students at different times over their four years in order to gradually develop their level of information literacy
5. Evaluating the success of the program and tracking a body of students over time to assess how their attitudes toward, awareness of, and skills with information have altered.
6. Expanding the program and transporting it to other departments and disciplines within the university.

Steps one through four of the plan have been implemented, step six will begin in the Fall of 1988 with the Division of Biological Sciences, and step five is in the planning stages.

The prototype version of the constructs and skills of our program was initiated with the College of Agriculture and Life Sciences Department of Agricultural Economics. We began with a pilot test for two classes (60 students) in the summer of 1987. The program formally began with five Fall '87 and Spring '88 classes and we are now beginning our second cycle. With over 700 undergraduate Business and Finance majors, our information literacy program has now been integrated into several existing courses within the curriculum of that department. These classes are as diverse as Introductory Statistics, Managerial Accounting, Business Policy and Marketing Management. Through these initial efforts, we have reached over 1000 students.

LEARNER OUTCOMES

Our instruction incorporates lecture, demonstration, and discussion, involves class assignments cooperatively developed by the faculty member and a librarian, and relies on a variety of resources - irrespective of format - to teach our objectives. All of our sessions are driven by a series of established goals and subordinate enabling objectives.

The broad goals for our students are that they will:

a. Understand the role, power, and value of information in a democratic society,
b. Understand the variety of the content and formats of information,
c. Understand standard systems for the organization of information,
d. Develop the capability to retrieve information from a variety of systems and in various formats, and
e. Develop the capability to organize, manage, and access information for various retrieval purposes.

Expanding upon Goal A, our objectives are that students can describe and understand 1) how scholars and researchers use information and keep currently informed; 2) how practicing professionals use information and keep currently informed; 3) how the use of information can improve the quality of scholars' and professionals' work; 4) the commodity nature of information: who generates, controls, and uses information. In particular, the role that governments play in the dissemination and control of information; and 5) the costs of misinformation, the possibilities of abuse and its consequences. Similar objectives also exist for the remaining goals.

Core components of our information literacy program focus on increasing students' awareness, changing their attitudes, transmitting knowledge to them, and developing their information access and retrieval skills. Our efforts are planned and structured over a four year time span such that each succeeding session cumulatively builds upon the lessons learned in the previous session; we are not dealing with one-shot BI classes. We teach a sequence of classes from the sophomore to senior levels, each building upon the content of the previous class, and each relating the components of one to the other.

Our instruction benefits the students by helping them to meet their immediate needs in the classes we teach, their need for information resources throughout their education at Cornell, and in their job search. Our efforts can also directly and positively benefit not only aspects of their personal and professional lives, but the lives, careers, and actions of others as well.

CONCLUSION

Incorporating information literacy into the curriculum will improve the quality of undergraduate education and ensure that our students will be provided with the knowledge and skills that an educated citizen needs. Yesterday we turned our heads and sleepily closed our eyes; today most of our collective heads still remain in the sand We can, however, no longer afford to be so complacent regarding user education.

It is time for us to begin moving; as responsible professionals we cannot afford to walk backwards into the future. Our hope, and expectation, is that others in the information community will share this vision, reach for the baton and race forward with us, infusing information literacy concepts and skills into a new generation of Americans.

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The Collegial Connection:
Working with Teaching Faculty to Create a New Course

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Abstract. At Washington State University, a major grant from the National Endowment for the Humanities supported the development of a new interdisciplinary course in World Civilizations. Two librarians, along with teaching faculty, were selected to participate on the project, which was part of a larger curriculum reform effort at the University. Their contributions ensured the inclusion of a library-use component in the course, facilitated the link between the World Civilizations and English 101, and asserted the collegial status of librarians on their campus.

Keywords and Phrases. Bibliographic instruction, User Education, cultural literacy, English Composition, Faculty Relations, Curriculum Reform.

At many institutions, the quality of undergraduate education is receiving critical attention, and major curriculum reform efforts are being undertaken. In some cases the library is involved only peripherally in this movement, or not at all. Academic librarians have begun to address this problem within their institutions and in the larger professional arena. At the 1987 ACRL President's Program, "Academic Colleagues in Concert," it was unanimously agreed that

> librarians should be members of an institution's curriculum committees in order to ensure integration between course matter and the Library's resources. Librarians must be part of long-range planning committees and task forces for proposed new courses and/or general changes in the curriculum and direction of the university.[1]

We would like to document a case where librarians have played a very active role in restructuring the first tier of a proposed new general education package at their university.

W.S.U. has been attacking the question of general education reform on several fronts, and librarians have been involved in all of them. The Director of Libraries, Maureen Pastine, has been an active member of both the Commission on General Education (charged with devising an overall plan for the university) and the All-University Writing Committee (which has successfully proposed a new writing-across-the-curriculum program). Paula Elliot and Alice Spitzer were selected by application to join, as advisors, a group of 20 faculty from 10 departments who would develop and eventually teach a required two-semester freshman course in World Civilizations. This course would be linked to an already required one-semester course in English composition.

The development of the World Civilizations course was funded by a grant from the National Endowment for the Humanities. One stated aim of the course is the inclusion of transferable skills in library use. It was expected that our involvement would focus on this aspect, but our wider-ranging contributions have increased our status as collegial members of the group. This has helped ease the teaching faculty's acceptance of bibliographic instruction as an integral part of the course.

What are the non-instructional ways in which we have contributed? The innovative intent of the course went beyond the typical historical survey of western civilization, to include all parts of the world and encompass all aspects of culture, including philosophy and religion, literature, music, art, and science. While the faculty selected to design and teach the course represented a broad range of disciplines and interests, certain areas of expertise were missing. By good fortune, one of us is a specialist in music and theater, and the other a specialist in non-western art and literature. We were able to fill some crucial disciplinary gaps. Our contributions have included a model lesson on medieval art, architecture and music, lists of contemporary writing from non-western cultures, and teaching packets on selected topics in Asian and African art and music. As the 1987 President's Program reported, "librarians doing their own subject-oriented research seem to enjoy a special relationship with faculty, and this might be a model to encourage."[2]

Early on it was agreed that audio-visual materials were necessary in a course which purported to teach all aspects of culture from all parts of the world. But, with a few exceptions, the faculty were not very comfortable with the variety of educational technologies nor could anyone really grasp the range of disciplines that would have to be covered in investigating what materials were available and needed. Patricia Breivik asserts that as librarians, our assistance in this area is perhaps one of the most visible aspects of our involvement.

> Those in charge of information services on a campus are the renaissance people who are able to

> guide [others] through the typology of knowledge and help them discover the relationships that no single professor and no single department can.[3]

By the very nature of our work, the librarians are not so discipline-bound as those in academic departments. We found it easier to get an overall perspective on the supporting materials needed. Indeed, we were appointed the "Materials Committee" for the project, along with one of the teaching faculty who has had broad experience with audio-visual materials and has taught several interdisciplinary humanities courses.

The Materials Committee produced lists of available relevant films, and selected additional films for purchase. The committee created, indexed, and duplicated a set of over 1200 syllabus-related slides. It also identified appropriate musical selections, and created a series of cassette tapes: "The World Civ Soundtrack." Several members of the faculty group have commented that they feel much easier about teaching this course, knowing that such resources have been made available.

The NEH grant also specified that the course incorporate cultural events on campus, to introduce students to art exhibitions and dramatic and musical performances. Again, as librarians we were able to take advantage of our wide contacts on campus to assist instructors in implementing this component of the course. Each semester we prepare a list of all appropriate upcoming events from which students are required to attend and write written reports on two.

The grant provided funding for two annual workshops for retraining of faculty expertise in non-western areas of the curriculum. With previous experience in organizing regional and national conferences, the librarians offered to assist in the organization and planning of the World Civilizations Workshops, and we played a major role not only in coordinating the mechanics of the workshop but also in determining its content and format.

And what about library use in the course? This, initially, was why librarians were selected as advisors to the project. We agreed early on that while we would work together and consult frequently, each would take responsibility for a different part of the project. One would assume the task of incorporating a bibliographic instruction project in the two-semester World Civilizations course. The other, because of her already heavy involvement with English composition would help develop suitable and complementary library use projects for English 101.

Since the World Civilizations course gave beginning freshmen their first exposure to the library, Paula gave the class a presentation on question analysis based on the first-semester course content[4], to prepare students for exercises in locating library materials. Question analysis addressed an aspect of library education not routinely covered in W.S.U.'s existing BI program; bibliographic instruction for World Civ was structured in this way to avoid any pedagogical overlap with instructional practices established for other courses. After this session, students completed assigned worksheets on identifying keywords and related concepts, and using these terms to locate books with the online catalog. An additional exercise introduced students to rudimentary criteria for evaluating the information they found. The second semester's library instruction amplified the evaluative element of information-seeking, culminating in a bibliographic essay on a course-related topic. Teaching faculty assigned points toward the student's total grade for completion of the library projects.[5]

An informal survey indicated that first-semester students generally appreciated "learning the library." By second semester, a little jaded, they evidenced less satisfaction with the library component of the course. The librarians regard the "pilot" aspect of the course as an opportunity to try new things in BI, and feedback from students and faculty has engendered revision in the approach to library use for the second year of the pilot.[6]

This pilot phase also allows for planning large-scale library instruction, involving more librarians and teaching faculty, when the course is fully implemented as a freshman requirement. Ideally, a seamless inclusion of library skills into the course content asks our teaching faculty to view independent inquiry as essential to the undergraduate experience. We must remind our overworked faculty that this

> is not meant to advance new topics in addition to or at the expense of those already in the curriculum. Rather. . . this knowledge is actually part of learning a subject.[7]

We hope that our active collaboration with those teaching World Civilizations will produce teacher-inspired library user education.

Under the terms of the grant, the content of the English 101 class would change to fit the new world-wide theme; in fact, a whole new syllabus and draft text book has been created. Alice was asked to join the group working on this project. The new emphasis both restricted and expanded the possibilities. No longer could students hand in reworked, tired old essays from the dormitory files on gun control, abortion or drunk driving. On the other hand, what kind of assignments would fit the course content emphasis and give students the needed library skills? Because of the diversity of interests among the composition instructors it was decided there would be no one generic library assignment. Rather, the librarian would work individually with each instructor to develop a variety of assignments that would meet the course objectives and which could be used as models for others teaching the course. The syllabus is organized around ideas that span a variety of time periods and cultures: religion, political theory, the arts, science and philosophy. Depending on the interest of the instructor a library assignment could be developed to fit into any of these areas and could dovetail with particular writing skills the class may be working on. Library skills for English 101 usually concentrate on using journal indexes but may also include the library's online catalog, newspaper indexes and encyclopedias.

Like many academic libraries, over the years W.S.U. has had difficulty becoming actively, meaningfully involved in development and change in the university curriculum. We were often the last to know about new programs and nobody even thought that the library might be somehow affected. When the World Civilizations project offered all faculty an opportunity to become active participants in curriculum design, librarians responded to the challenge as a collegial privilege and responsibility, with the full support of administrators who defend librarians as faculty equals. The work has entailed long hours of intense activity. About 20 to 25% of our jobs now relate directly to the World Civilizations project, but our involvement has contributed enormously to job satisfaction. We have seen a positive change not only in the new general education reform movement, but also in the increased regard for the library across campus.

Academic public service librarians have a unique insight into educational needs on their campuses. Furthermore they possess distinctive backgrounds which can enrich the efforts of their teaching colleagues. Too often such abilities go untapped, to the detriment of quality education. In the curriculum reform movement, we now have an opportunity to assert a major influence on our academic communities, to the enhancement of our own careers.

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ENHANCING USER ACCESS: REFLECTIONS AND A MODEL

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Abstract. Efficient use of bibliographic utilities for cataloging academic library materials has promoted increasing abandonment of locally developed practices traditionally used to tailor collection access to the perceived needs of catalog users. Available cataloging data from the utilities made it economically imperative for academic libraries to accept Library of Congress (LC) and LC-style cataloging with little editing, and to pattern local cataloging practices to conform more exactly to LC practice. A model is introduced which proposes that intra-institutional resources may be used in conjunction with the local automated catalog to define and provide relevant additional access points, in terminologies of greatest potential use to a target population of catalog users, beyond those provided by LC and LC-style cataloging on the utilities.

Keywords and phrases. Cataloging; Access enhancements; Bibliographic utilities; Catalog users; Public access catalog.

THE CATALOGING DATABASE

Prior to the emergence of bibliographic utilities, cataloging at the local level, whether original or copy cataloging, involved some consideration of how each item fit into the collection, how it might be used locally, and how catalog access to it might best be provided our clientele. Where resources permitted, catalogers exercised sufficient control over the academic library collection through cataloging and classification that like materials were shelved together, enhancing browsability, and works of like subject or of a single author collocated in the public catalog. Generally, catalogers arranged catalogs and collections first according to perceived needs of catalog users, and secondly, according to perceptions of ongoing institutional needs. Catalogers and patrons expected all materials related to an author or of like subject treatment to be in proximity in the catalog as well as in the stacks, and catalogers chose terms, arrangements and sub-arrangements for items in proximity according to best guesses of how local patrons would likely look for the item. Such controlled treatment of the collection was labor intensive, quite slow, and very expensive.

Even before the utilities, cataloging practice in most academic libraries began to mirror Library of Congress (LC) practice in descriptive and subject cataloging. LC-style and Library of Congress Subject Headings (LCSH) became de facto standards as we attempted to make local records compatible with the economical copy available on LC cards and proof-sheets. For consistency, we began to mirror known, and anticipate unknown LC treatment of materials when cataloging without copy.

Shared cataloging on the utilities served to validate our own LC-style cataloging. For our purposes, acceptable copy for local databases became LC or LC-style copy found on the utility. Cataloging treatment, hence access treatment changed, not to meet our users' needs, but to mirror LC practice. The greater portion of local cataloging databases now consist of LC and LC-like access supplied from outside the campus by catalogers unfamiliar with local patrons or particular academic institutions.

Using the utilities forced catalog managers to abandon building catalogs for specific clientele in order to take best advantage of what the utilities offered: shared cataloging, improved processing speed, and lowered per item cataloging costs. Access became "getting the books out" more than providing indices to collections based on user or institutional needs. Currently, we provide traditional access (based on user needs) to only our most important collections.

HOW ACCESSIBLE IS IT?

As we gain experience with automated catalogs being driven by more and more sophisticated computers, we are becoming aware that we have little data concerning the information seeking habits and behaviors of our catalog users.[1] Do standard access points prescribed by AACR2 and LC practice in fact serve to properly index our collections for our users? Some librarians have serious doubts that standard access is sufficient. Nearly all think at least that LCSH is suspect.[2] The model proposed suggests that our testbed is at hand: we can now use the local automated catalog to explore our patrons' information seeking behaviors. Understanding user information seeking behavior, we may once again provide collection access according to patron need.

ASSUMPTIONS

For purposes of the model proposed, let us assume we are operating an automated public access catalog (PAC) in a medium sized university, and that we wish improve our support of the undergraduate curriculum by providing enhanced access to materials related to specific courses of study. Full LC or LC-style AACR2 cataloging will comprise the "standard" level of access to bibliographic records in the local system.

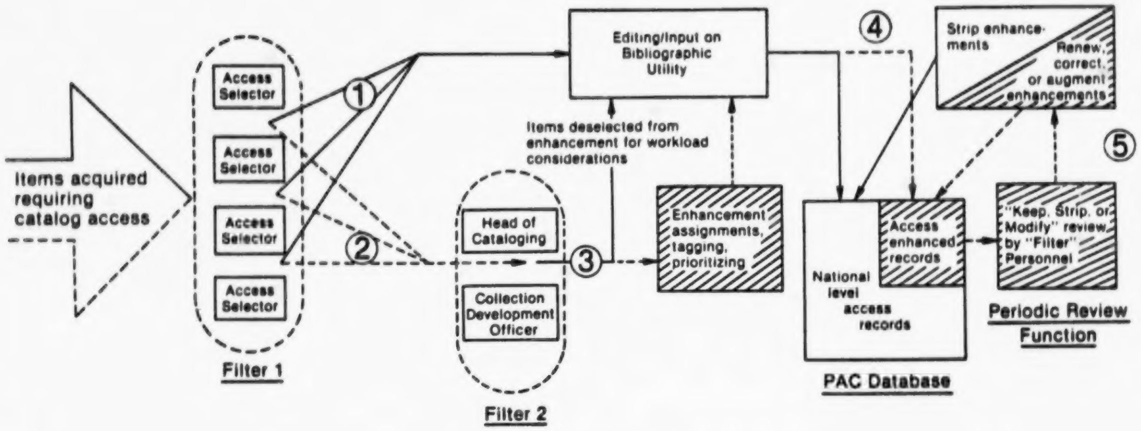
Items acquired
requiring
catalog access
Access Selector
Access Selector
Access Selector
Access Selector
Filter 1
①
②
Editing/Input on Bibliographic Utility
Items deselected from enhancement for workload considerations
Head of Cataloging
Collection Development Officer
Filter 2
③
Enhancement assignments, tagging, prioritizing
④
Strip enhancements
Renew, correct, or augment enhancements
National level access records
Access enhanced records
PAC Database
⑤
"Keep, Strip, or Modify" review by "Filter" Personnel
Periodic Review Function

Figure 1

We also may make certain assumptions about a target population of undergraduate students and the materials they would find most useful to their studies. Among other things, we may assume our target group will exhibit unsophisticated search strategies and find current materials to be of greater interest. It seems highly probable that our undergrads will have difficulty finding materials in PAC.

Though we wish to add more (possibly simpler) access points to PAC for our target group, we wish to have the additional access terms be easily identifiable in the system to facilitate review and evaluation of enhanced records. It is likewise desirable that system manipulation of enhanced records or enhanced access points should neither affect "standard" PAC access nor the "standard" bibliographic records in the database.

ENHANCEMENTS

We may wish to consider adding some of the following non-standard access points for our realtively unsophisticated library users:

1. Full, selected, or keywords from Contents indexing.
2. Additional author, title or author-title access for individual artices or chapters.
3. Vernacular or alternative subject language such as: Glasnost; Sports fans; User-friendly systems; User interface; Blood doping; etc.
4. Local, timely/popular personages as subjects or authors relating to particular courses, including course instructors.
5. Catch titles or relators (imitation series) such as Arts and Sciences noon series; Chemistry colloquium 1988; etc.
6. Other terms or approaches that appear to fill a need based on the course or the target population.

LOCAL PROGRAMMING AND MARC

The same technology that created the economic imperative to accept "standard" cataloging from the utilities makes it possible to target access for local materials to specific patron groups. The MARC formats used on the utlities are flexible enough to allow addition of non-standard terms, or alternative access points, to local records without causing the terms to impinge upon the "standard" record contributed to, or downloaded from the utility. OCLC MARC's 949 field for example, is a communication field defined by local programming and controlled by locally assigned field indicators. Local or PAC vendor programming could enable the 949 to control a multiplicity of fields enhancing access beyond "standard" bibliographic access. Any 949 field data would be indexed in the local system but transparent on the utility. In effect, fields exist in utility MARC which allow communication of local data to local records without disturbing the "standard" record.[3]

METHODOLOGY FOR ECONOMICS 323 (HYPOTHETICAL COURSE)

Proceeding on the premise that "standard" access may be inadequate for a particular target group, and that group needs for relevant resource materials can be broadly defined, the model proposes a methodology for enhancing access to newly acquired materials in support of Economics 323, a hypothetical undergraduate course. Clearly, similar methodologies could be developed in relation to the information needs of other groups defined within a library's user population.

Generally, potential selectors would be encouraged to specialize in identifying items significant enough to a discipline and target group to be candidates for access enhancement.

By and large, we can expect that librarians involved as subject bibliographers, or in *collection development would be best able to* pinpoint new materials relevant to particular courses of study, and those working closest with the target group would be best able to define its information needs and information seeking behavior. Ideally, all staff, and even users should be provided avenues for contribution to the process of designating and enhancing access to relevant materials for targeted groups.

THE MODEL (FIGURE 1)

Figure 1 represents a generalized "decision-flow" for newly cataloged items such that those items which are particularly relevant to a target group and course of study can be selected for access enhancement. In the diagram, Filter 1 personnel represent those library subject specialists, departmental liaisons, etc., who wish to undertake responsibility for selecting and enhancing access to course related items felt to be of greatest potential help to students. Filter 1 people serve to select from all items acquired for cataloging those relevant to a particular course offered in the coming semester. Items (point 1 in the diagram) not selected for enhancement proceed through the normal cataloging workflow to be processed at the "standard" level (*i.e.* to be cataloged with AACR2, LC-style description and access).

Any items (at point 2) selected as being particularly relevant to Economics 323 in the Spring semester would be separated from the "standard" workflow, annotated by Filter 1 personnel to indicate access strategies or additional access points relevant to students in ECO 323, and forwarded for review at Filter 2.

Personnel at Filter 2 serve to control the number of items actually enhanced according to cataloging workload. In our example, the Head of Cataloging serves to negotiate/estimate the number of pieces which could be enhanced without seriously disrupting cataloging workflow, while the Collection Development Officer both checks on the quality of materials selected for enhancement and sets priorities for enhancement processing according to course of study and target group. In addition to overseeing the project's impact on Cataloging workload, setting priorities and controlling the quality of suggested enhancements, Filter 2 personnel must also serve to initiate feedback to Filter 1 people concerning numbers of items which may be selected, priority subject areas, and how various access strategies are working. Obviously, Filter 1 personnel are the appropriate sources for feedback to Filter 2 people concerning the priorities they have set for enhancement processing, as well as evolving needs of the target populations in particular courses.

As items at point 3 on the diagram pass through Filter 2, workflow considerations mentioned earlier will require that some items be redirected to "standard" processing while those of higher priority undergo enhanced access tagging. The enhanced tagged records would then be edited/input on the utility as an adjunct to normal cataloging processing. Total items (at point 4) processed by cataloging generate either "standard" or enhanced bibliographic records which then load into the library's cataloging database.

Point 5 on the diagram identifies those functions needed to review the enhanced portion of the database. Periodically, Filter 1 and 2 personnel would compare search transaction logs in order to compare the relative activity of enhanced and "standard" records with the hope of showing increased activity for the enhanced records. Filters 1 and 2, in conjunction with Systems personnel, regularly purge the database of enhancements for lapsed courses and interests, and delete or modify terminologies used in providing access to local resources. As Filter 1 and 2 personnel fine tune the system they continually reassess the program's impact on the target group and on overall PAC use.

There are be many questions to be asked and answered. Did the students' experience with the materials compare with the selectors' assessment of its utility? Were the items selected for enhancement truly relevant to the course curriculum? Did we make it easier for ECO 323 students to use PAC and are they more comfortable with PAC use? Do the transaction tapes tell us that our target audience used the PAC more effectively than other users, or were other users more likely to access ECO 323 items than we expected?

Our assessment might easily tell us that we have mis-profiled our target audience but that they blundered through the PAC somehow. Perhaps we might notice that certain subject terms borrowed from PRECIS or DIALOG, perhaps ERIC descriptors, have been particularly useful in PAC. Should we expand our subject access according to available thesauri of this nature or will LCSH with timely, local terminology be sufficient for enhanced subject access? Fine tuning the system should provide insights into how our users relate to our PACs in addition to allowing an assessment of our ability to understand and anticipate our users' needs. Such insights will be increasingly valuable as we begin to understand how our databases may be best used for academic research and how humans inquire after information. In short, how we may best provide cataloging service to our patrons by first understanding the processes of inquiring after information and creating access compatible with their needs in an automated catalog.

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LEARNING TO LEARN: USING ELECTRONIC INNOVATIONS IN LIBRARY INSTRUCTION

MARY GRIFFIN

Abstract. Librarians, in teaching about new electronic information delivery ststems, have a golden opportunity to build on the accomplishments of past years. Bibliographic Instruction, in moving from tool-based to conceptual frameworks, has provided a foundation and model for demonstrating the potential of these systems and tools for teaching and learning a variety of intellectual skills. Discussion of OPACs, online searching, and CD ROMs are included, showing how these technologies yield meaningful, relevant information only upon the application of carefully thought out, focused queries/commands. Examples included show how librarians can take advantage of these features in teaching research processes.

Keywords and Phrases. Bibliographic Instruction. Online Searching. Critical Thinking. Online Public Access Catalogs (OPACs). CD ROMs. Information Technology.

For many years, librarians have been committed to the organization of knowledge and information, and to the providing of physical and intellectual availability for that knowledge and information. They have constructed card catalogs; they have amassed large collections of materials of many kinds, in many formats, on many subjects; they have instructed patrons in the myriad complexities of finding what they need. In more recent years, the computer industry has become involved with knowledge and information -- with how these resources are stored, organized, used, rendered accessible. The business community now boasts of many fine companies exclusively devoted to providing consumers with access to information. The parallels are obvious; indeed, libraries have long been in the information "business." And, thanks to these burgeoning information companies, we now have a variety of electronic access capabilities available to help us in what we do. It seems fitting, during this 100th anniversary ACRL conference, to look at how these innovations can further our instructional goals, and how we can use them to build successfully on our accomplishments achieved in past years.

Among the many products available to librarians and patrons are online public access catalogs (OPACs), online searching through such vendors as DIALOG or BRS, and compact disks (CD ROMs), to name only a few. Again, there are parallels. We now have an array of electronic tools to aid us in our quest for knowledge. OPACs can display for us lists of titles, lists of headings and subheadings, lists of authors. Display screens frequently show us, with only a few keystrokes, the contents of several catalog drawers. Online searching is offered in most libraries right along with traditional reference service, and often patrons/end-users perform their own searches. CD ROMs have enormous time-saving potential for library patrons; these disks replicate their print counterparts in an attractive, seemingly easy-to-use new format. Library patrons are enthusiastic about the new technologies, and librarians are very involved in making sure their patrons can use the new tools.

But innovative, dazzling new ways of finding information aren't the whole story. The search process is described by one author as having "two broad categories." Donald Hawkins discusses "mechanical operations and intellectual operations."[1] He comments that many "rough spots" have been "smoothed" through mechanical applications, but that the intellectual arena is as yet unaddressed. Another author defines the library's mission "simply" as "the provision of intellectual and physical access to information and knowledge."[2] In a detailed article describing risks and opportunities in electronic information environments, Harold Shill cautions that excitement about new technologies can cause us to forget that they are "instruments" to help implement our goals, and "not ends in themselves." These observations serve to remind us that the information we retrieve so handily is, after all, useful only within a context. And so it is with our students. We have at hand opportunities to show our patrons the importance of context and meaning in going about their library work. Additionally, these technologies can help us to clarify the research process for them -- a process that is neither as well understood nor as inherently orderly as we would like to think.

OPACs typically allow their users to employ searching features familiar to card catalog users, who are accustomed to looking up authors, titles, and subjects, often with varying degrees of expertise. While teaching use of card catalogs, librarians have emphasized subject organization, the *Library of Congress Subject Headings* (LCSH), and frequently this tool's enormous implications for focusing, narrowing, even choosing a topic or problem for research. In our library, we have seen a very dramatic increase in the use of the LCSH since our online catalog was introduced. We can discuss meaning and hierarchy in language and terminology, and students and faculty can see, displayed on the screen, exactly what we are talking about. They can quickly see how a list of titles retrieved through use of a particular term leads them away from their chosen meaning. Sometimes, a list of headings and sub-headings suggests an organizational thrust for someone's research problem. Frequently patrons return to the LCSH for more ideas, and to clarify further exactly what they mean. Meanwhile, all along this process, users are selecting, rejecting, and making choices, based on relevance and appropriateness, about a number of things: certainly about the materials they choose, but also, about the direction and focus of their research.

and often about its organization and the language in which it is to be expressed. Because of their speed and visual display features, online catalogs have the effect of being interactive with patrons' emerging critical thinking processes, and, in a way, reward these processes. For appropriate information will be forthcoming only if requests have been precisely stated -- a situation requiring thinking skills. In an online catalog environment where keyword searching and Boolean operators are available, critical thinking skills would become even more pivotally important.

Keyword and Boolean capabilities, though not always part of online catalog configurations, are prominent assets in online searches and in the fairly new, not yet as widespread, CD ROM searches. Precisely stated logic is the mainstay of both online and disk searching, and Marcia Bates, in an article discussing search tatics, cautions us of the importance of being "aware of the difference between a term and a concept."[3] Concepts (which are ANDed) can be expressed by synonymous or almost synonymous terms (which are ORed). It is here that we must give attention to our research contexts, for the terms and concepts we are using will have meaning for us only within these contexts. It is necessary to think closely about our research problem, making decisions as we go, about our focus, our direction, our meaning and intent. Whether we use print or electronic thesauri, the terminology will take on relevance and appropriateness only as we evaluate it against our research needs. We are, once again, directly involved in a critical thinking environment, and it has neither been contrived, nor "tacked on to" (or superimposed on) another learning activity. There are fertile implications here for bibliographic instruction librarians.

Dr. Bates suggests as a search tactic that we "record," or "keep track of trails ... followed."[4] Using a search log as a student class assignment would guarantee that students would reflect on their searching and thinking processes. Such an assignment would be viable in end-user online searches, as well as with CD ROM searches. The log could begin with the first formulation of the research problem, then subsequently chronicling the steps and decisions taken both to clarify meaning and to find information. In a shorter assignment, merely the search strategy to be used online or with the disk would suffice. In this latter instance, it would be an enlightening experience for students, who modified their strategies while doing searches, to compare these changes with their original intentions. Whatever the assignment, the act of reflecting on the mental frameworks they have established helps students to see the process as a whole and also as a manifestation of the content they are exploring. Still other kinds of assignments are discussed by Ilene Rockman, in an article on end-user bibliographic instruction, where she shows assignment possibilities within the frameworks of "Course-Integrated Instruction," "Classroom-Based Instruction," and "Stand-Alone Instruction."[5]

CD ROMs have many features which can support curricular needs, as well as skills currently being nationally mandated for inclusion within the curriculum. Like online catalogs and online searches, because of their speed and visual displays, disk searches also have the effect of being interactive with patrons' thought processes. Like online searches, CD ROM searches require careful analysis and formulation of users' research problems in order to yield adequate information, thereby again reinforcing thought processes. CD ROM formats, however, have additional characteristics which can be very supportive of instructional efforts. Because costs are fixed, patron access is usually free. This fact alone encourages a variety of learning behaviors. Users spend time at the terminal trying out ideas, changing their strategies, or even the focus of their topics. They browse, they go at their own pace, and often they use the system to get a "feel" for their subject. One article about CD ROMs in libraries comments that "users feel in control of their own searches." The author, Ron Rietdyk, states that the interactive effect of CD ROM searching "provides an intellectual stimulation."[6] Other statements, in an article by Richard Lavin and Jean Sanders about computers and adult learners, tell of how "adults frequently feel more comfortable making mistakes privately," that computers are "uncritical and infinitely patient."[7]

These characteristics of disk technology, and the behavioral responses they elicit, along with the obvious enthusiasm of patrons, all act together to provide a very auspicious climate for teaching and learning. In the past, instructional librarians have generated enthusiasm for library use as a way to help students with class research problems, and as a way to help instructors teach a variety of thinking skills. CD ROMs just might be proving the points we have been making all along. They demand contextual queries. They respond meaningfully only to precisely stated queries. We now have opportunities, when we talk about doing library research, to show how the conceptual thinking we have long valued produces very effective results when applied to computerized information delivery. We have explained indexes, encyclopedias, bibliographies as optimally valuable within specific research problems and as ways to learn organized, critical thinking; we can now expand our discussions to include the information retrieved through computerized technologies -- and at a rate of speed that charms everyone.

Time constraints have limited this presentation to discussing only a few of the innovations now taking place in increasingly more libraries. OPACs, online searching, and CD ROMs receive much coverage in the library literature. Though only a passing reference can be made, it should be mentioned that there are also many articles about microcomputers, and computer-assisted instruction (CAI). It is fairly safe to say that librarians are aware of educational possibilities inherent in computerized information delivery and in electronic learning environments. And, if the literature is correct, instructional librarians have taken steps to include new technologies as part of their focus wherever appropriate. Much of this literature however, addresses "how to use" requirements of new tools. Once again, we should remember that the mechanics of finding information is only half the story. One article compares these "mechanics" with a newer "frontier" -- that of "teaching critical thinking in terms of bibliographic instruction."[8]

In past years we shifted our attention from bibliographic tools to their conceptual frameworks; we are now at a similar point in computerized information delivery. Online catalogs and laserdisks have given us a golden opportunity to build on the foundations we have established over the years. It remains for us to help realize their instructional potential.

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STUDENTS MENTORING STUDENTS IN LIBRARY INFORMATION SERVICES FOR UNDERGRADUATES

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Abstract. Although academic libraries rely heavily on student workers (circulation departments, for instance, would have difficulty functioning without student employees) rarely have these students been used to help perform public service tasks such as user education. On the premise that students, especially lower-level undergraduates, would respond well to library instruction by their peers, the authors obtained a grant from the University Teaching Council to train three sophomores at the University of Nebraska-Lincoln to conduct general library tours, assist with end-user searching of bibliographic databases, and provide term-paper counseling to students unfamiliar with reference sources. The study demonstrated that these student mentors performed very well in conducting library tours and in providing end-user search assistance, while being less effective in term-paper counseling. This experiment has implications for determining appropriate levels of staffing for various library instruction activities.

Keywords and Phrases. Bibliographic Instruction; Student Mentors; Staffing Levels; Term-Paper Clinics; End-User Searching; Library Orientation Tours; Program Evaluation.

Relatively open admissions policies at many state universities have led to the enrollment of some students who may be neither academically nor emotionally prepared to deal with college life. Many of these students drop out after the first year of school at a rapid rate. An analysis by the American College Testing (ACT) Program of data provided by all U.S. colleges and universities revealed that 32% of all full-time freshmen entering college in 1981 had dropped out by the fall of 1982.[1] However, the attrition rate for "open door" institutions--those with an average ACT score below 15 and an SAT below 700--was 41%, significantly higher than rates across all types of institutions.[2]

In Increasing Student Retention, Dr. Lee Noel, an expert on the issue of retention, points out that students drop out for a combination of reasons including academic boredom, lack of career goals, problems of adjustment, unrealistic expectations, lack of academic preparedness, and the students' perception that their needs are not met by the institution. In the last ten years educational institutions have tried a variety of strategies to increase retention. However, Noel believes that a "caring attitude of faculty and staff is... the most potent retention force on campus".[3] It is the people in "frontline positions" with whom the students come in contact, especially during the very early stages of their college careers, who may tip the balance in a student's decision to remain in college.

The role of the library in the alienation of students has not been studied either by educators or by librarians. Yet the manner in which the library is perceived may play an important role in the student's attitude toward the institution. University libraries are generally viewed as impersonal for a number of reasons. A student entering the library cannot focus on an individual, as s/he can focus on the classroom teacher. Public service librarians at the reference desk rotate periodically in a pattern not readily identifiable, and patrons cannot rely on getting helpful assistance from a specific individual. University libraries can also be geographically as well as conceptually complex, with new wings and classification systems added over a number of years. It is understandable that students often feel helpless and bewildered when they enter a research library for the first time.

In an effort to create a hospitable environment in which students can become acclimated to the library and learn rudimentary research skills, three public service librarians at the University of Nebraska-Lincoln (UNL) developed a bibliographic instruction program which utilized student mentors trained to teach library skills to lower-level undergraduates. We felt that student mentors would be seen as more readily accessible and less intimidating to new students than professional librarians. The Teaching Council at UNL agreed to provide funding for a year. Our three students were trained to: 1) lead library tours which would provide an orientation to the physical layout of the library as well as instruction in retrieving books and journal articles; 2) help with computerized bibliographic retrieval of the Wilson indexes and ERIC and PSYCLIT on CD-ROM; and 3) provide individual assistance with term papers. We hypothesized that there would be no significant difference in the user satisfaction levels between trained students and professional librarians in these three types of instruction.

We hired three intelligent, well-motivated students with strong interpersonal skills, good public speaking abilities, and a high grade-point average to provide the range of services we had in mind.

The students were first trained to lead library tours. This activity is conceptually the least complicated of the three tasks they would be performing. Library orientation tours are not meant to provide detailed bibliographic instruction but rather to acquaint new patrons with the physical layout of the building. After taking a tour, patrons should know how to use the card catalog and find a journal and a book in the stacks, and learn the location of the Government Documents Office, the Microforms Room and the Circulation Desk.

Training began shortly before the Fall 1987 semester. The librarians developed a tour outline and led several tours for the students, who then led trial library tours for the two other students in the presence of one of the librarians. Afterwards the group analyzed the student mentor's understanding of the library, his/her speaking voice and demeanor during the tour. Then each student mentor led the other two students on a tour without a librarian. This exercise was again followed by a critique. Weekly meetings allowed the librarians to address any potential problems brought up by the students.

We spent approximately 10 hours in training the three students to give library orientation tours and they spent an additional three rehearsing and critiquing each other. By the start of the Fall semester the students, while being slightly nervous, were quite capable of giving these orientation tours.

We marketed the library tours aggressively. Ads were placed in the student newspaper, the telemonitor in the Student Union, and in the weekly university staff newsletter. Tour signs were placed in prominent locations throughout the main library and letters were sent announcing the tours to all department chairs, all fraternity and sorority houses, and the teachers of the 40-45 University Foundations courses.[4]

Forty-eight tours were scheduled for the Fall 1987 semester. Twenty-four tours were led by librarians and 24 by the student mentors. All the tour leaders were given a standardized tour script. At the end of each tour, evaluation forms were completed by tour members. The sheets were color-coded to distinguish tours led by librarians from those led by students. We had little difficulty in getting tour members to complete the forms.

On nine of the eleven questions in the evaluations there was no significant difference in patron satisfaction between the student-led tours and those led by librarians (Table One). However on two questions, #1 and #4, the patron satisfaction level was significantly higher for the student mentors than for the librarians (Table Two). Thus patrons felt the student mentors' performance level were equal to the librarians' in nine categories on the evaluation form, and better than the librarians in two categories. Both of these questions ("The tour guide made me feel comfortable about asking questions" and "I would recommend this tour guide to my friends") address human interaction and concern, suggesting patrons felt the student mentors were superior to professional librarians in providing the "caring environment" needed to feel comfortable in a research library.

The fact that patrons were as satisfied with student mentors as with librarians in the other nine questions has important implications for a reference department. If properly trained student mentors can conduct orientation tours to the satisfaction of patrons, perhaps professional staff should be relieved of this duty. Orientation tours do not require detailed bibliographic knowledge. Entering freshmen seemed to learn enough information from the student tour leaders to feel at ease in the library.

During the second phase of our study, the student mentors assisted in end-user searching. In the last few years, the pricing structure for databases on compact disks and dial-up end-user products has allowed libraries to absorb the cost of providing access to these machine-readable databases. At UNL, we decided to offer the more simplified computer search service at no charge to the user in order to make database searching accessible to a larger segment of the university community. The Central Reference Services Department has selected Wilsearch and two CD-ROM products (ERIC and PSYCLIT) as the first free end-user automated indexes to be made available to undergraduates.

In order to insure visibility, the end-user search service was set up near the Reference/Information Desk and the Author/Title card catalog on the second floor of Love Library. The student mentors were trained to provide assistance to patrons unfamiliar with computers. A few hours of training by librarians and a few hours of practice were enough to make the student mentors proficient at end-user searching. They worked 60 hours a week at peak service times during the latter part of the Fall 1987 semester and the entire Spring semester of 1988. Surveys were administered in both the Fall and Spring semesters to assess the acceptance of the end-user search service.

Classes which attracted large numbers of freshmen students (e.g., the University Foundation courses) were contacted to inform instructors and students of the availability of the end-user search service. By the conclusion of the Teaching Council grant, approximately 8,000 searches had been conducted by patrons. Over 6,000 of these were on Wilsearch system, targetted primarily for undergraduate students. The surveys showed that the service reached its intended audience: undergraduate students were the heaviest users. Graduate students, however, were well-represented in the survey. The majority of respondents found that the articles located in the search were "very useful" or "moderately useful." Almost all of the respondents stated that they would use the service again and would recommend it to a friend. But even though most thought computer-searching was easy to do, almost all asked the student mentors for help.

Our observations have several implications for service analysis. Because the volume of searching was so great, the professional staff found it difficult to integrate the patrons' numerous questions about the machines and about search strategies into the workload at the Reference Desk. The student mentors learned the mechanics of the computer hardware quickly and were able to give advice on search strategies. Comments by patrons and by professional staff strongly corroborated our conclusion that the students provided excellent assistance for a small investment in training time and money.

The third component of our study was a comparison of the performance of student mentors and librarians in term-paper counseling to lower-level undergraduates. Like end-user searching, term-paper counseling involves the use of secondary sources. In the case of term-paper clinics, however, the counselor must have a broad understanding of the numerous types of sources in the reference collection (e.g., encyclopedias, dictionaries, bibliographies, indexes) to guide the researcher to the tool(s) most appropriate to the topic and to the level of research.

Training of the student counselors began at the end of October and continued until early December. Two sessions each were devoted to sources in business, government documents, the social sciences, and the humanities. At the end of each session the student mentors were given a set of assignments which they reviewed with a librarian at the following meeting. To conclude the training, we held a number of practice sessions in which the student mentors were asked to give advice on possible sources of information on a number of typical freshman paper questions (e.g., "Should surrogate motherhood be outlawed?" "Was President Truman justified in dropping the bomb on Hiroshima?" "What are the pros and cons of the Japanese educational system?").

At the beginning of the second semester the term-paper clinics were advertised in the campus newsletters, the university newspaper and flyers promoting the service were posted throughout the library. Again, we publicized the clinics to the Foundations courses for entering freshmen. Sign-up sheets were placed at the Reference Desk asking students to list their tentative topics.

Perhaps because they were not advertised as heavily as the library tours and because there were fewer freshmen in the Foundations courses in the second semester, students were slow to sign up. However, the demand for the service increased as the semester progressed. An evaluation form was available for patrons to indicate their levels of satisfaction with the service.

Although the librarians were conscientious about having patrons fill out the evaluation forms, the student mentors were not. We must therefore be more subjective than we had hoped to be in our appraisal of the quality of the help provided by the students and the librarians. But based on our observations of the student counselors and the librarians as they conducted the clinics, we conclude, not surprisingly, that the librarians provided better counseling than did the students. The librarians knew a greater variety of sources and were able to quickly identify more specific sources than did the student mentors who tended to rely on the computerized indexes with which they were familiar and which they manipulated with great ease. While the student mentors performed adequately, the number of patrons served and the quality of the counseling do not justify the great amount of professional staff time needed to train them.

Recognizing the student mentors' usefulness in the first two roles, the Central Reference Services Department hired them again to lead library tours and to provide assistance at the end-user search terminals during the Fall 1988 semester.

In summary, the use of student mentors has proved effective in two of the three areas examined. Library orientation tours and assistance with end-user searching are activities that can be delegated to well-trained student mentors. More complex reference duties, however, such as term-paper counseling are best performed by librarians. When used appropriately, student mentors can enhance the effectiveness of a reference department by providing quality service and freeing professional staff for more complex bibliographic responsibilities.

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Table One.

Please Check

____Freshman
____Sophomore
____Junior
____Senior
____Graduate Student

Library Tour Questionnaire

WE WOULD LIKE TO KNOW WHAT YOU THINK OF THE LIBRARY TOUR YOU HAVE JUST COMPLETED. PLEASE ANSWER THE QUESTIONS BELOW AND HAND IN THE FORM TO THE PERIODICAL ROOM (Room 109)

THANKS FOR YOUR HELP

Please check "yes" or "no"

The tour guide

1. Yes___No___Made me feel comfortable about asking questions.
2. Yes___No___Spoke clearly and audibly.
3. Yes___No___Was knowledgeable about the library.
4. Yes___No___I would recommend this tour guide to my friends.

I now feel more confident about

5. ___Using the Author/Title Catalog.
6. ___Using the Subject Catalog.
7. ___Finding a book in the stacks.
8. ___Finding a current periodical.
9. ___Finding an older issue of a periodical.
10. ___Finding the Microform Room.
11. ___Asking for help when I don't know what to do.

What did you like best about the tour?

What did you like least about the tour?

Table Two.

Librarian			Student		
	Yes	No		Yes	No
1. T=302	94%	6%	1. T=158	99.37%	.63%
2. T=295	95.25%	4.75%	2. T=158	98.10%	1.90%
3. T=301	98.33%	1.66%	3. T=160	96.88%	3.12%
4. T=304	84.21%	15.79%	4. T=154	94.16%	5.84%
5. T=298	70.47%	29.53%	5. T=162	72.22%	27.78%
6. T=301	69.77%	30.23%	6. T=157	72.61%	27.39%
7. T=299	58.86%	41.14%	7. T=162	65.43%	34.57%
8. T=296	70.27%	29.73%	8. T=160	74.38%	25.62%
9. T=307	57.98%	42.02%	9. T=160	56.88%	43.12%
10.T=295	78.64%	21.36%	10.T=162	79.63%	20.37%
11.T=297	88.89%	11.11%	11.T=158	88.61%	11.39%

Statistical Formula: Two Sample Proportion Test

Confidence Level: .01

Critical Z Score: + or - 2.57

EVALUATION OF BIBLIOGRAPHIC INSTRUCTION: DIRECTIONS FOR THE NEXT CENTURY

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Abstract. During the past century, methods for teaching library skills have grown more sophisticated, but evaluation techniques have not kept pace. If library research skills are presented to students as facets of a dynamic critical process, then a new model is needed to assess whether analytical and problem solving skills have been learned. This paper examines the difficulties inherent in constructing effective evaluation tools and proposes a multiple methods model to measure changes in student ability to construct and use appropriate research strategies.

Keywords and Phrases. Bibliographic instruction, critical thinking, evaluation methods, performance tests, problem solving, research skills.

RATIONALE

Teaching use of the library and its' resources has been a strong concern of academic librarians throughout the twentieth century. As early as 1898, Emma Adams' report of her survey of library instruction for future teachers in state normal schools was published in Library Journal. Adams found that of the twenty foremost normal schools, only one reported providing no instruction in use of library resources.[1]

As bibliographic instruction became more prevalent, interest in evaluation methodologies began to develop. Teaching library use and evaluating the success of instructional efforts are really two sides of the same coin. John Dewey focused on the need to measure learning when he wrote, "One might as well say he has sold when no one has bought as say he has taught when no one has learned."[2]

Library teaching methodologies have evolved from an earlier preoccupation with teaching use of discrete reference sources and orienting the user to the physical confines of the library. Current efforts focus on teaching library research as a dynamic process and on helping students to form conceptual frameworks or managerial strategies to inform the research process. Just as bibliographic instruction has grown increasingly sophisticated, influenced by practitioners' research on learning theory, evaluative methodologies for bibliographic instruction have followed a similar path. Werking provides a detailed survey of the many approaches to measuring library teaching success. He reflects the consensus of experts in educational evaluation when he states that "...because evaluation is so complex, no single tool or method can satisfactorily gauge a program's total effectiveness."[3]

Teaching and evaluative methodologies for bibliographic instruction today mirror the trends in higher education generally. As educators became more interested in teaching critical thinking skills at all levels of the curriculum, librarians recognized that bibliographic instruction is a legitmate part of this effort. Research questions are puzzles, and the library research process fits the pieces together. Successful researchers must possess the analytic and evaluative dispositions commonly known as critical thinking skills.

This paper will examine this relationship further and will focus on the following questions. First, can library skills be taught in ways that foster critical thinking skills? How can we best evaluate these teaching efforts? Why are current evaluation methodologies inadequate? Finally, what can we glean from the literature of evaluation to help build a new model?

TEACHING LIBRARY RESEARCH SKILLS

Robert Ennis, a prominent thinker on thinking, defines critical thinking as "...reasonable reflective thinking that is focused on deciding what to believe or do."[4] Psychologist Robert Sternberg links critical thinking to problem solving when he notes that critical thinking is "...the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts."[5] Sternberg believes that problem solving seems to require reasoning and vice versa.[6] The terms critical thinking and problem solving, while not synonymous, are at times used interchangeably.

Library research clearly involves problem solving and decision making. Constance Mellon described the search process in terms of a cyclical pattern of research, analysis, and evaluation of information found.[7] Oberman and Linton concluded that the library research process contains all the elements of problem solving.[8] Other researchers have defined elements common to problems of all types. Problems always have an initial state and a goal, require that certain operations be performed to solve the problem, and impose constraints, or rules about allowable operations, on the problem solver. Problem solving can be seriously hampered if the goal is not clear, if the solver does not know what to search for.[9] Bibliographic instruction librarians acknowledge this when they teach methods for question analysis or clarification, helping students to define what is known and not known about the research problem, what time, language, and discipline related constraints apply, and what operations or research tools will fit the need defined.

Students of problem solving behavior also recognize that "heuristics" are important tools to use when teaching students how to approach problem solving. Heuristics are strategies or tactics that are independent of subject matter. Often heuristics are quite broad and general, such as "work backward first" or "break the main goal down into subgoals."[10] When looking at library research as a specific type of problem solving behavior, one can identify certain domain-specific heuristics commonly employed. Many seem quite obvious to expert problem solvers. Librarians do not need to consciously remind themselves to begin with specific search terms and work toward more general concepts if efforts are not fruitful. Nor do they need to be instructed to match the type of tool to the particular information need. Yet these are viable heuristics employed in the research problem solving process which must be taught to novices if they are to become independent and successful at this task.

Those who have studied the problem solving process closely also recognize that use of heuristics alone cannot guarantee success. A broader managerial strategy, like a roadmap of the solution process, is also needed to guide and inform decisions along the way. One writer asserts that managerial behaviors include selecting perspectives and frameworks for a problem, deciding whether a path should be abandoned when new information is uncovered, and monitoring tactical or heuristic applications.[11] Question analysis and constructing appropriate search strategies for library research problems are good examples of managerial behaviors.

The best way to teach problem solving behavior is to provide extensive practice with many kinds of problems, not only those that fit formulas easily, but also "fuzzy," real-world types. Schoenfeld points out that teaching of a heuristic requires sufficient time on task. The "...student must see it interpreted and applied in many contexts and then be given training in, and feedback on, his use of it."[12] Nickerson believes that educational research demonstrates the "slow, accretive nature" of most learning and the real correlation between the amount of instruction time spent and the level of student achievement.[13]

Clearly, the band-aid approach to library instruction, one-shot guest lectures in a variety of courses, cannot be viewed as an effective means of teaching these complex skills. It is possible to teach and reinforce important critical thinking and problem solving skills, but only when students are exposed to the frequent doses of instruction and practice that a full length credit course in library research skills allows. The discussion of evaluation methods which follows assumes that one cannot test for what is not taught and looks toward outlining appropriate techniques for measuring growth.

CURRENT APPROACHES TO EVALUATION

Evaluation of educational outcomes is a complex and difficult task. Deciding, first, exactly what should be evaluated, and then designing measures that actually assess these skills, has proven a challenge since our earliest attempts at evaluation of bibliographic instruction. Problems with popular, easily managed evaluation tools, such as standardized objective tests, have been identified by a number of writers.

Jill Fatzer notes that many tests assess only factual recall, not whether students understand and can employ research strategies.[14] Eisner reminds us that reliance only on standardized tests to assess learning may cause us to miss unintended outcomes or knowledge in areas not sampled, that they often present a biased picture. He recommends use of more open-ended techniques that are not focused on comparing one student to a norm, but rather measure against a standard of achievement.[15] Baron points out that most standardized tests are verbally loaded and thus may cause us to overlook students who can perform tasks but whose writing and verbal skills are below average.[16] Finally, Resnick asserts that test batteries currently in use "...do not provide the scope or opportunity for students to carry out extended analyses, to solve open-ended problems, or to display command of complex relationships..."[17]

Efforts to evaluate bibliographic instruction programs reported in the library literature have largely utilized standardized or home grown pre and post test methodology and attitude inventories to determine whether some change in knowledge or attitudes has occurred. Adams describes the most commonly used standardized tests of library skills and notes that only two include items that test for more than simple recall.

Some have attempted to devise complex approaches for measuring long term recall of library skills or correlations between library skills instruction and academic success.[19] Problems in controlling for effects of other variables in these studies make their results questionable. Further, these efforts seem to focus on retention of facts rather than skills.

Those who have attempted to test for skills have typically relied on assessment of research products, like term paper bibliographies, as evidence that student learning occurred.[20] However rating quantity and quality of references in bibliographies is not really sufficient proof of student skill at using library resources since good references are often borrowed from roommates and friends much like a favorite sweater.

Knapp described a series of performance tests for tasks related to catalog use, like the ability to classify or impose ranks and ingenuity in use of clues. She was interested in examining judgements made by the card catalog user who is constantly estimating and re-estimating probabilities of success with each search tactic.[21] More recently, Dalrymple reported on a study of online and card catalog use aimed at identifying criteria that inform judgements about useful solution paths and clues that are helpful in this problem solving process.[22] Clearly these studies attempted to go beyond recall to assess problem solving and evaluative behaviors as integral to the success of the library research process.

None of the approaches described thus far really captures all the elements required for a wide angle, well-focused snapshot of student research behavior. Developing appropriate and flexible techniques to determine whether critical skills have been learned or reinforced as a result of bibliographic instruction is important for several reasons. First, tests influence teaching. That is, devising ways to measure learning of these elusive skills will encourage more practitioners to reach beyond the basics and offer students the opportunity to learn and practice truly lifelong skills. And tests do send the message that a task is important. Students, administrators, and teaching colleagues in other disciplines regard as valuable and desirable those abilities important enough to test for.

The barriers that have held back the development of more appropriate methodologies for evaluating bibliographic instruction are twofold. First, as Werking notes, a lack of professional consensus on what skills to teach has hindered development of testing instruments.[23] This is a problem not easily resolved, but certainly one that merits the attention of local and national library professional associations. Development of a national bibliographic instruction "curriculum plan" which includes provision for appropriate testing would strongly enhance efforts to articulate BI with the college course of study.

Another barrier to developing testing methodologies is fear of "value-laden," subjective evaluation techniques. Librarians eagerly adopted some of the artifacts of scientific evaluation like carefully selected sample populations, control groups, and statistical approaches to manipulating data. We have been far more hesitant to experiment with methods requiring individual judgement on the part of the evaluator. It is certainly easier to determine whether students can recall factual information than to judge how well a student can perform a task. Yet Krathwohl demonstrates that value-free evaluation is really a myth. Values are implicit in every aspect of the evaluator's task, from choice of instruments to design of an evaluation plan to test for those outcomes considered important. "Objectivity" is really attained through the evaluator's willingness to base conclusions only on evidence.[24]

King reminds us that evaluation need not be elaborate or difficult to execute to provide useful information that can enhance teaching and learning.[25] The final portion of this presentation will examine a multiple methods model that could be adapted and applied to assessment of library critical thinking skills in a variety of settings.

BUILDING BETTER TESTS

Educators who teach and test for critical thinking and problem solving skills believe that a complete assessment must consider knowledge, conceptualization, or how knowledge is structured, and attitudes toward use of these skills.[26] A multiple methods approach employing appropriate paper and pencil tests to examine these areas as well as performance tests of the research process could produce the most accurate and complete picture of outcomes.

A useful performance test might require the student to locate specific items, such as articles on a particular topic or listings in the online or card catalog on a specific subject, and to "think out loud" while engaged in this process. Audio or video taping allows evaluators to review the search process demonstrated by the student, to rate the efficiency of choices made at the critical decision points and the effectiveness of the managerial or search strategy employed.[27]

Since performance tests are more complicated to develop, administer, and evaluate, these could be applied to a small sample of the total population if other measures that assess the student's ability to choose appropriate information sources and strategies are present in the total evaluation package. A number of interesting techniques have been described recently by educators. Many could be adapted to the evaluation of library skills.

Specific factual knowledge about research resources is an important foundation on which cognitive skills are based. In addition to basic factual knowledge, however, knowing how and when various sources should be used is also essential. Baron recommends using "nesting" techniques, dual questions that test for knowledge of concepts and for their application.[28] Beyer presents a prescription for constructing objective tests that assess the range of generalization and transfer of thinking skills.[29] He requires students first to define a skill, such as classification, to identify examples of that skill in action, to execute use of the skill several times, and finally to explain how to use the skill. It would be possible to construct a short answer or multiple choice test in this vein where students could demonstrate use of library skills such as categorizing research questions by subject or by discipline area. Use of "objective" tests of this kind also avoids some of the pitfalls of evaluations based on essay tests, where success is dependent on writing ability.

Frederiksen describes a simulation test booklet based on a set of "unfolding problems" that was developed to evaluate medical students' diagnosis skills.[30] The student makes judgements by choosing from a group of possible responses and then is referred to another page in the booklet, where she uses a felt pen to uncover a latent image describing what happened to the patient as a result of her choice. This technique could easily be adapted for teaching and for evaluating library skills.

Other techniques for assessing specific library thinking skills are more verbally oriented and require writing and construction of scales for rating responses. Keeley describes a study of critical skills where students were asked to point out errors in an essay.[31] In a library context, students could be presented with a predefined search strategy on a specific research question and asked to evaluate it, pointing out faults or areas to be improved. Another writer describes her method of open ended testing utilizing partially constructed responses.[32] Opening and closing statements are provided, and the student supplies the missing elements. A research question and a citation to a source answering that question could be given in a test of library skills. The student would supply a description of the process and the types of sources used to locate the answer.

After examining performance, and analyzing the product by means of some of the techniques described here, a thorough evaluation will consider how the student's knowledge is structured or stored. Some researchers believe that the way information is stored influences how much information is available for transfer from old to new problem situations.[33] Several writers describe use of "ordered trees" to ascertain how students classify or categorize specific knowledge and how they relate concepts to each other.[34] A list of terms and concepts should be provided so that recall is not necessary. Student "trees" are then compared to those of experts, usually the instructor's. For example, a list of terms and concepts related to searching for journal literature could be arranged by students to determine whether they understand the distinctions and relationships between sources which provide access.

Finally, a number of writers recommend use of attitude inventories to examine students' academic self concept and confidence levels.[35] McKeachie sums up the importance of rounding out an evaluation in this way when he notes that "...long-term interest in further learning depends upon the degree to which students see themselves as capable of learning and possessing skills and strategies that enable them to cope with difficulties in learning."[36] This empowerment is the best of all reasons for offering bibliographic instruction to users. And more complete and effective evaluation of our instructional efforts will insure that our students are indeed mastering the skills that will help them to do what John Cotton Dana advised early in this century when he said: "To know how to find in books and journals just the information you need--that is to hold the eel of wisdom by the tail."[37]

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MAKING REAL CHANGES: INNOVATION AND INTEGRATION IN A PROBLEM CLASS

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Abstract. One of the most popular courses on the Cornell University campus is Professor Andrea Parrot's Human Services Studies 315: Issues in Human Sexuality. The course is taught in both fall and spring terms and generally has an enrollment of 400 students. It is taught in an abbreviated version in the summer, but even then enrolls a large number of students. However, librarians in several of the campus libraries have found the course to be a serious problem for both their reference and stack collections as the students enrolled in it rarely understand research strategy, tend to leave their assignment (a short research paper) to the last minute, and are nearly all looking for the same materials at exactly the same time. Because the course if popular with whole groups of students (e.g. it is often taken by the entire basketball team or an entire fraternity), Professor Parrot, to prevent plagiarism and the use of old papers, requires that the students use current material and changes the topics of the course each term. A grant from the University President's office has enabled Cornell librarians to be involved more directly in the assignment for the course; an involvement that has helped to change the research behavior of its students.

THE BACKGROUND

In 1980 Professor Andrea Parrot, a new member of the Department of Human Service Studies, took over and redesigned Human Service Studies 315: Issues in Human Sexuality. Ordinarily a new course being taught on our campus does not make itself felt in the libraries immediately; sometimes not at all. In this case, however, probably in part due to the subject matter and in part to the exceptional vitality and speaking skills of the professor, enrollment in the class was large from the beginning. By the end of 1980 almost every reference librarian at Cornell had encountered at least some HSS 315 students as they worked on their five-page assignments, dealing with contemporary controversies in the field of human sexuality. Most of them did not know how to use the libraries, most of them had left their research for the last minute, and most of them seemed to be looking for the same materials at the same time.

Sometime in 1981 we approached Professor Parrot and convinced her to let us speak to her students on a voluntary basis--that is, students could come to a library session if they wished. Professor Parrot did not yet appreciate the importance of such a session so there was need at that time to keep our approach gentle and low key. Over the next few years Professor Parrot worked more and more cooperatively with the librarians, eventually making the library session a mandatory part of her course.

By 1985 we were teaching approximately ten bibliographic instruction sections per semester to the students in this class. We had also convinced Professor Parrot to allow the students to choose a somewhat broader series of topics, helping, in fact, to find new and exciting topics which we would send to her for approval. However, despite valient efforts by both the professor and the librarians we found that there was still too much competition for materials, which resulted in pages being ripped out of journals and books missing from shelves. The fact that the assignment also required that all material come from the latest year or two and that "scholarly" sources were required, added to the frustration level of both students and librarians. We could sympathize with the professor's concerns about plagiarism and the use of fraternity paper files, but felt that there must be a better way to tackle the problem. It seemed to some of the librarians that the solution might lie in still more varied paper topics as well as in the broadening of the time span from which articles could be drawn. However, one of the major difficulties in resolving the relationship between the course and the libraries was due, in part at least, to the ever increasing workload in our libraries. Like most college and university librarians we were feeling the effects of the added responsibilities of computer searching, bibliography preparation, collection development and an ever-increasing instruction load, to what had already always been a very busy schedule. All of these activities had cut down on the amount of time available to work out an intensive and truly cooperative relationship with many of the instructors whose students we were trying to help.

GETTING A GRANT

The announcement in 1987 of the Cornell University President's Initiative Grants for the Improvement of Undergraduate Education seemed like manna from heaven to many of us. We felt that we had the perfect situation to merit a grant: a professor who supported our efforts and a very large number of undergraduates whose behavior we would be affecting. We were also fortunate in having a library director who believed that librarians do have a role in undergraduate education. Here was an opportunity to apply for money which could provide us with some extra staffing and the potential to work through this problem to a satisfactory solution. On the other hand, the competition for these grants was fierce; faculty from most departments on campus were planning to apply. Would we as librarians stand a chance? With nothing to lose we decided to give it a go, and much to our delight, when the final announcements were made, the Uris Undergraduate Library was awarded a $10,000.00 grant which was to be matched, in part, by library funds, and used over the next three years. Although it was a third of what we had originally applied for we felt fortunate in getting it as the number of grants applied for exceeded the number of grants actually awarded by more than four to one.

The President's Fund for Educational Initiatives was designed for programs that would "impact on the overall quality of undergraduate education." The grant proposal submitted by Uris Library had several major components designed to do just that. The wording was:

> The undergraduate librarians plan to introduce undergraduates, especially at the lower division level, to the concept of search strategy, as well as to basic research tools, such as indexing and abstracting services, the use of the card catalogs and Cornell's new online catalog, serials access sources, and on-line databases. We will encourage undergraduates to be aware of the important role played by library staff in helping them with their research and access needs.

To acheive these ends we proposed to develop a model for course-integrated instruction in several large courses on campus. "Course-integrated library instruction" refers to the introduction of library resources and search methodology in a way that is integrated into a particular course. It requires that the librarian and the professor work together in planning research assignments and in introducing students to the libraries and that the research expertise of the librarians be recognized as an important component in completing course assignments. It also requires that the librarian understand thoroughly the goals of the course and that he of she has a basic knowledge of the subject matter. The librarian and the professor become working partners in preparing the assignment and in working it through with the students.

Exactly what steps this will involve depends to a large extent upon the subject matter of the course. In the case of Human Services Studies 315 (which we were using as our model) the instructor and the librarians met several times to discuss ways in which the library-course connection could be improved. During the spring semester of 1988 librarians in the Undergraduate Library presented the usual ten library sessions they had presented in the past, but the changes made in the assignments connected with those sessions have made critical changes in the way students are using the library and in the quality of the papers they are producing.

THE COMPONENTS OF CHANGE

The first major change had to do with when the paper research was being done. We in the libraries had long felt that one of the biggest problems with the assignment had to do with the time of the semester at which it was due. By having the paper deadline during the last week of the semester, Professor Parrot had ensured that her students would compete not only with each other but with students from numerous other courses as well--since final-week deadlines are popular with any number of faculty. We suggested to her that the research paper required for the course could be improved if it were preceded by the assignment, earlier in the semester, of a critical, annotated bibliography. The objectives of such an assignment were: to allow students to examine critically and carefully the written materials available on a given subject; to enable students to increase their knowledge about and efficiency in using the services and resources of a major university library; to increase student expertise in one of the areas covered by the course and to encourage students to look for materials early in the semester when competition for them was not as great. In addition, such an assignment would allow students time to obtain materials through interlibrary loan if necessary, and would give them a chance to improve on the resources they found if those did not meet the standards established by the professor.

What the details of this assignment would be and how the librarians would be involved in it were critical issues that the professor and librarians worked out together. Professor Parrot was eager to have us continue to teach the students about library resources, but saw a need to broaden the content of our sessions to include instruction in bibliographic format. (She requires students to use the American Psychological Association's publication guidelines). We were eager to prepare materials that would help students distinguish between scholarly and non-scholarly journals since their inability to do so had been a problem in the past. We planned that students would leave the library session with a clear idea of what was meant by the term "critical annotation" and how to write one, and of what parts a bibliographic citation should consist.

How the assignment would be announced and the manner in which it would be turned in to the instructor were also part of our deliberations. Professor Parrot decided that she would like the librarians to present the annotated bibliography assignment as part of the library session. We were also to describe not only the format of the assignment, but its various parts; an introductory essay (describing briefly how the student had done the research), the annotated bibliography of no fewer than six items, of which three must be scholarly, and a thesis statement based on what the student had learned from reading the materials gathered for the bibliography. This last requirement also meant that the librarians would teach students what a thesis statement is and does and how to write one (having worked with English faculty over the years most of us felt reasonably well qualified to handle this). The due date for this assignment was mid-term. The bibliography would consitute approximately one-fifth of the paper grade. Any student failing to achieve a passing mark on the bibliography would be required to do it over before being allowed to turn in the final paper. To assure that the materials used in the bibliography would be available for perusal at the time the final papers were due, students were encouraged to photocopy as much of the material they examined as possible.

Professor Parrot was convinced that by grading the bibliographies the teaching assistants would have a better sense of the final papers, although there was some feeling on their part that the librarians, having given the assignment should also grade it. For one thing, neither the professor nor the teaching assistants felt qualified to judge the bibliographies in the same manner that a librarian would. We were asked to teach them how. Meeting with the professor and the four teaching assistants we worked out some general guidelines to follow. Together we graded a number of the completed bibliographies, taking into account the quality and appropriateness of the sources, details of the introduction, the ability to write clear and critical annotations and a good thesis statement, and finally, the accuracy of format. Errors of grammar, punctuation and spelling were corrected, but unless they intruded on the meaning of a sentence such errors did not cause students to lose points.

STUDENT REACTION

How did the students feel about the assignment? Since the librarians agreed to grade one-sixth of the total number of papers we were able to get a reasonably good understanding of the students' reactions. Of the nearly 70 papers graded by library staff, all but one contained some positive statement about this experience. Comments such as, "I finally feel as though I've learned how to use the libraries" or "this was the first time I had ever tried to use something other than the Reader's Guide to Periodical Literature to find an article," or, "this was one of the most useful assignments I've had since coming to Cornell" were very gratifying. The one negative statement came from a senior who felt that it was an "insult" to have to do this assignment since he already know "all there is to know" about doing research. (He actually did a rather poor job on his bibliography so we didn't take his comment too much to heart).

LIBRARIAN AND FACULTY REACTION

And the librarians? Once the semester was over and we'd had the opportunity to talk about the impact of the assignment on the libraries we found that we had a lot to be pleased about. The 400 students from HSS 315 who usually appear at our desk in a panic during the last weeks of the term just didn't materialize this year. They had all done their research early in the semester and when everyone else was hunting down resources they were busy writing their final paper. We also discovered that we had had fewer reports of articles ripped out of journals.

Professor Parrot also felt that the assignment was worthwhile. The average grade for the course was up 1.75 points over any previous semester and whereas in previous semesters she and her teaching assistants have had to cope with numerous complaints about grades, that term there were only two. Perhaps most important of all, there were no cases of plagiarism. In fact, the professor has extended this assignment to include not only her HSS 315 course, but also Human Service Studies 101: Issues in Human Services Delivery, a course with an enrollment of about 150 students which she teaches every fall.

We have now taught our model course for two full semesters, have extended it to HSS 101, and this semester have been asked to prepare a similar model for Government 111, a course that enrolls over 600 students each spring. We have less than two years left of our Initiative grant. Can we continue this kind of program, or expand it once the grant money has run out? We think so. The basic materials have been produced and can fairly easily be adapted to new courses. We have trained one professor and a group of teaching assistants to grade annotated bibliographies--that form of training looks as though it could easily be expanded so that the teaching assistants could take over some of the library sessions. Everyone we have worked with to date is convinced of the value of the model. We look forward to refining our lectures and handouts and perhaps the assignment itself, but feel that the integration of bibliographic instruction into a model course has been a true success.

BRIDGES TO THE FUTURE: A CHANGING FOCUS FOR BIBLIOGRAPHIC INSTRUCTION AND INFORMATION LITERACY

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Abstract. In order to provide a framework for discussion of the future of bibliographic instruction, thirty-eight leaders in the field address the issues or problems facing user education and provide solutions or responses. Technological change, a conceptual basis for bibliographic instruction, institutionalization of bibliographic instruction, recruitment and support of personnel, and meeting the challenges of nontraditional users and of the illiterate are identified as primary concerns.

Keywords and Phrases. Bibliographic Instruction, Library Instruction, Information Literacy, Library Futures, Technology.

INTRODUCTION

Bibliographic instruction and information literacy activities in libraries must adapt to the changing goals, needs and orientations of their institutions. The recent ACRL Bibliographic Instruction Section Think Tank book, Bibliographic Instruction: The Next Generation, discusses the role of bibliographic instruction in relation to the academic library settings of the past and of the future. Joseph Boisse and Duane Webster[1] speculate that the future role of the bibliographic instruction librarian will change radically "because our libraries will be totally changed." They assert that the success of bibliographic instruction librarians will be dependent on their flexibility in dealing with change and, more importantly, on their ability to influence and guide change. Later in the book, Donald Kenney[2] states that "user education . . . must be considered as important as the cataloging or checking out of materials. Only educated users will be able to make libraries work for them." Connie Miller and Patricia Tegler, on the other hand, argue in their recent article that librarians should focus their energies on information provision, stating that "defining instruction as librarians' reason for being deflects an information profession away from what it ought to be doing . . . ."[3]

Still more recently, Jill Fatzer provides yet another view, one of an innovative library, in which technological innovation and strategic planning are encouraged and significant strides in computerization have been made. In this setting the instruction librarian will be "required to teach uses of the new technologies, while continuing to teach the same aspects of search strategy and information evaluation . . . ." currently taught.[4]

Clearly, librarians, administrators and professional organizations need to identify the issues facing bibliographic instruction and to cooperate in planning for the future. To provide a framework for discussion, the authors asked fifty librarians influential in bibliographic and library instruction to identify the issues facing user education during the next ten years and to suggest responses librarians should make. Six major themes emerged in the thirty-eight responses which provide the text for this paper.

MAJOR CONCERNS

Technology

Technology and its effect on libraries and librarians, especially its application to bibliographic instruction, is the major concern expressed by the responding librarians. Technology is discussed in two ways: one, the technology of information delivery, and the other, the technology of instruction delivery. The challenges these present to librarians who must or should know about them, utilize them and teach others to know and use them are emphasized by more than twenty-five respondents.[5]

Betsy Baker and David King[6] point out that technology in libraries adds to their mystery and complexity. Others note that the shift from print to electronic means of storing and disseminating information creates the need for librarians to become more technologically literate. This, in turn, requires that librarians understand the newest trends and remain abreast of technological change--to know what is available, how to use it, and possibly even to anticipate new developments.

Respondents emphasize use of technology to enhance bibliographic instruction. Suggestions include looking at various ways of employing technology and being willing to try new methodologies. Computer-assisted instruction (CAI) is recommended as probably the most efficient means of providing basic skills instruction. The use of CAI is also viewed as a way of addressing the disproportion between numbers of librarians providing bibliographic instruction and numbers of patrons in need of it. One especially interesting idea is that librarians develop instructional programs that can be embedded into already existing technologies, e.g., a program of basic skills instruction mounted on the same computer and accessed from the same terminals used for the online catalog.[7]

The concern about teaching use of new information technologies is best expressed as the question, "Will this type of instruction change the role of librarians as intermediaries?", and its corollary "What effect will this change have on libraries?" Review of the organizational structure of libraries and of the use of professionals in libraries is one method suggested for dealing with these queries, with the clear inference that this review must lead to real change or libraries and librarians will be left behind as irrelevant. Many agree that a review of resources, human and financial, will be a part of this process. Hard decisions will have to be made on the allocation of those resources to the tasks posed for libraries. Planning will have to be done to provide for expansion of facilities to accommodate the new technologies.

All of the librarians who cite technology as an issue to be faced in the next ten years use much the same language in talking about solutions. Their main thrust is that, if bibliographic instruction librarians are to deal with technology effectively, they must keep up-to-date on what is happening and how it can be utilized. In addition, librarians must be prepared to make the case for bibliographic instruction to library and university administrators so that sufficient support is available to incorporate new technologies as they emerge. And, finally, librarians must be versatile, flexible, and intelligent in their application of technology to bibliographic instruction.

Conceptual Basis for User Education

Another widely expressed concern is the need for a conceptual basis for user education, arising partly from technological change and partly from the new emphasis on critical thinking skills. The development of a conceptual model requires rethinking the definitions of information literacy and bibliographic instruction combined with predicting what libraries and information will be like in the future. It should be based upon the structure and organization of information both in general and within disciplines, and should contain a view of the information universe in which all information does not reside in the library. Cognitive and learning theories, the processes of information-seeking, evaluation of information, information dissemination, and acknowledgment that many people are placing more reliance on oral and visual methods of learning should all be considered in this model.[8]

Before this conceptual framework can come into existence, however, research is needed--in cognitive psychology, in learning theory, in student development, in user needs and behavior, in the sociology of knowledge and scholarly communication.[9] Accompanying this research should be evaluation of present instructional activities, beginning with a clear articulation of the characteristics of users who have successfully completed instruction programs. Evaluation should also address transferrability, teaching effectiveness, and development of critical thinking skills.[10]

A formulated conceptual model should lead to the teaching of sophisticated techniques and skills (such as metacognition) well beyond the current basic offerings. The goals of these programs are conceived as making users more independent, especially in such areas as database searching and database management.[11]

Integration

A third concern is the need to make bibliographic instruction a part of the curriculum of school and academic institutions, to work closely with faculty, library administrators, and school or university administrators. Competition for ever-scarcer resources is often mentioned in connection with this issue, as well as the need to use technology effectively, to share resources, and to develop strategic plans to promote bibliographic instruction.[12]

Respondents stress development of liaisons with other groups outside the library as an additional means of achieving integration.[13] Textbook publishers, library organizations, accrediting agencies, and other professional associations should be approached. In academic library settings, bibliographic instruction librarians must be active in discussions of information policy and forge relationships with other units (such as computer centers) interested in information and its dissemination. Curricular reform efforts are often excellent starting points.

Staff

The staff is the backbone of any user education program and many respondents express the conviction that support of this group is vital to the future of bibliographic instruction. Concerns about increasing time pressures and burnout are raised as are the librarian shortage, and a perceptible waning of enthusiasm and new ideas.[14]

One way of responding to these concerns is creativity in the design of alternative methods of instruction and information delivery. Other means are the use of staff from both technical and public service units, greater efficiency, and changes in the allocation of work time, perhaps as determined by performance measures.[15] Respondents also agree that library education should be strengthened to provide entry level librarians with skills and attitudes to survive in this complex information world, and that in-house and continuing education activities should be designed to keep practitioners flexible and current.[16]

Nontraditional Users

The needs of nontraditional users of the library are a concern of a number of respondents. These users are defined as either remote users with access available through technological means or as international users, i.e., foreign students or scholars in a university setting, recent immigrants especially in public or school libraries, etc. Maureen Pastine notes that technology will force academic librarians to cope with a change in clientele from one that is campus-based to one that is regional, national, or international. Issues to be faced by librarians in relation to these groups include how instruction will be presented to them and what part bibliographic instruction librarians will play in purveying this instruction.[17] One proposal made is that an international signage system be developed to meet one small part of the problem.[18] No major solutions are delineated, but clear statements are made that this is an area with which librarians must deal.

Illiteracy

Public and school librarians note the problems of illiteracy and urge librarians, as a group, to recognize the increasing and unchecked growth of functional illiteracy and how this affects not only the individual but society as a whole. Bibliographic instruction practitioners should develop programs to meet the special needs of the illiterate or partially illiterate and aid them in their struggle to achieve literacy in order to function fully in society. The solution here rests on the ability of the librarian to be creative and responsive to the needs of a very special group of patrons.[19]

SUMMARY

The problems facing bibliographic instruction in the future, as seen by expert practitioners, include technology and its applications; the need for a universally accepted conceptual basis for bibliographic instruction; the continuing institutionalization of bibliographic instruction so that it is fully integrated as a library function and resources are assigned to it as they are to collection development or technical services; the recruitment and support of dedicated and versatile librarians; and, finally, meeting the needs of nontraditional users and the illiterate. Many solutions are offered, most of them based on current thinking and activities within libraries, but all with the goal of the advancement of bibliographic instruction as a vital library service into the 1990's and beyond.

Jill Fatzer aptly sums up the future of bibliographic instruction when she states, "All in all, library literacy in 2000 will not be remarkably different from what it is now . . . . We will still be imparting education (e.g., how to conceptualize a search strategy) and training (e.g., how to boot a CD)." The role of the librarian, the types of patrons served, and the instructional media used, however, will be greatly expanded.[20] The future possibilities are "breathtaking."

ACKNOWLEDGEMENTS

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APPLYING COGNITIVE METHODS TO BIBLIOGRAPHIC INSTRUCTION

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Abstract. This paper presents two opposing theories of learning, the behavioral and the cognitive. It shows the impact behaviorism had on American education,including bibliographic instruction. Thorndike's pioneer work on Stimulus Response Learning, and the General Systems Theory, as it relates to instruction, is explained. Discussed and illustrated are the contributions of three cognitive educational psychologists. They are the Meaningful Learning Theory and Advance Organizers (Ausubel), Concept Maps (Novak), and the Conditions of Learning (Gagne). Specific examples show how to apply the theories to bibliographic instruction. A lesson on Periodical Indexes is outlined using the cognitive approach. It is recommended that the behaviorally oriented workbooks which teach skills, in conjunction with cognitive techniques which teach concepts, should be utilized in bibliographic instruction.

Keywords and Phrases. Bibliographic Instruction,cognitive methods, Concept Maps,Meaningful Learning, Advance Organizers, Learning Outcomes, Events of Instruction, Behaviorism,Periodical Indexes.

INTRODUCTION

In the 1960's[1] when the Library Instruction Programs became an integral part of higher education, the behavioral learning theory was the dominant force in American education.[3] The heart of the theory was the stimulus-response bond, which was believed to be formed or strengthened by reinforcement. Learning was seen as a response in the form of a behavioral change, caused by a stimulus, and facilitated by reinforcement. Performance was considered to be the only evidence that learning has taken place. No effort was made to understand what caused the behavior changes, and what internal processes occurred during learning.The principles of behaviorism guided instructions in all subjects and educational levels.It was only logical and natural then, for those who structured bibliographic instruction, to utilize the principles of behaviorism.

BEHAVIORISM

The Behavioral Learning Theory is is based on animal research. It was initiated by Edward Thorndike, who, at the beginning of the 20th century,used animals in his scientific experiments on learning.[4] He believed in trial and error learning. His experiments consisted of placing a hungry cat in a cage that had a latch inside. If the latch was manipulated, the door of the cage would open. After some attempts, the cat would open the cage by trial and error, and when it did so, it was immediately rewarded with food. Each time this procedure was repeated, the cat took less and less time to open the cage, until it opened the cage immediately. The inside of the cage was the stimulus, and pressing the latch was the correct response. Learning to press the latch was facilitated by reinforcement, the food. This came to be known as the Stimulus Response (S-R) Theory of Learning.

In the 1930's, B.F. Skinner continued to expand and modify the trial and error learning. He transfered the behavioral principles derived from animal laboratory,to human learning, calling it Operant Learning. Skinner developed various instructional techniques relating to feedback, reinforcement, and the delivery of instruction.[4] Very little attention was paid to understanding the processes of thinking, remembering, how information is processed, and how it is retrieved from memory.

Systems Approach

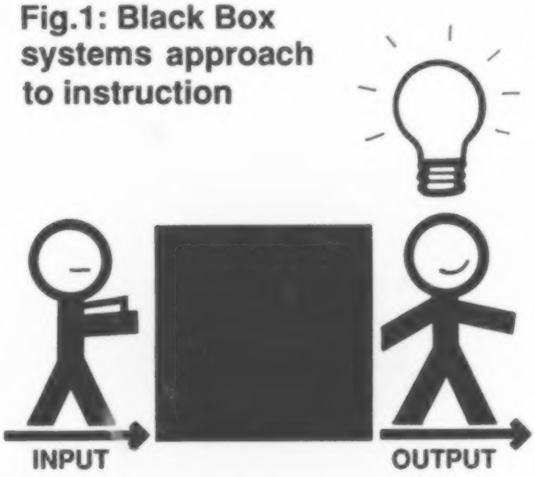
Behavioral approaches to education were later incorporated into what came to be known as the Systems Approach to Instruction. It generated from the General Systems Theory which cane into fruition in the early 1950's. According to the Systems Theory,our universe is composed of systems,subsystems,and supersystems, depending how we wish to delineate the area of interest. Thus, the human organism, for example,the librarian, is a subsystem within a library "system", which is located within a supersystem, the university.These systems have components which interact together towards a common goal.

The most important concept of the Systems Theory is the input/output relationship, which is the interaction of a system with its environment.The input from the environment can be manipulated to obtain the desired output.[6] It is not necessary to understand how the system functions, as long as the system works, and the desired output is achieved. The input/output relationship of a system, closely resembles the stimulus/response bond of behaviorism.

According to the Systems Theory, instruction is a procedural system, which consists of nine steps in a specified sequence.[5] The steps include identifying instructional goals, providing objectives for the students, giving tests, and conducting evaluations. Each step receives input from the previous steps, and generates output to the following steps. The goal of the instructional system is learning. All the steps interact to achieve the goal. Feedback determines if the goal has been achieved.

The Systems Approach to Instruction views the learners as an important component of the system, but only in respect to their performance. If the performance is unsatisfactory, if the specified objectives, that is, if the desired output is not achieved, as indicated by feedback (test), then system analysis is performed, and changes in the system are implemented by manipulating the input. The input is in the form of how information is presented, types of assignments, length of practice etc. Little attempt, if any, is made in explaining the causes of success or failure of learning, in terms of the human mind. The concept of the Black Box depicts the Systems Approach to instruction. See Figure 1.[6]

Fig.1: Black Box systems approach to instruction



A SYSTEM IS A LITTLE BLACK BOX
OF WHICH WE DON'T UNLOCK THE LOCKS
BUT FIND OUT WHAT IT'S ALL ABOUT
BY WHAT GOES IN AND WHAT COMES OUT

Behaviorism, like any theory, had its strengths and weaknesses. Some behavioral approaches to instruction are useful, and are here to stay. Stating objectives, and the flexibility of working at one's own pace, are two examples of behaviorism which enhance learning.

The basic weakness of behaviorism stems from the fact that it was based on research conducted on laboratory animals, which, when implemented into the classrooms, simply did not work. The behaviorists rejected to investigate the mechanism by which humans learn, and attempted to transfer the findings of animal experiments to people. Current research in human learning has shown that the nuts and bolts of the learning process should be the guiding force in teaching. Today, educators know, that predicting human behavior on the basis of animal behavior does not work. Humans, unlike animals, use their intellects to solve problems, and have memories which store and retrieve information for later use.

Behaviorism in Instruction

How does behaviorism manifest itself in instruction ? Behaviorists believe that the subject matter that is being taught, must first be separated into small parts. It must be presented to the students in small doses, starting at a specific level, and continue to more general and inclusive concepts. This is based on the belief that once students learn the specifics of a subject, they will have cumulatively learned the total subject. Students learn by practicing small units at their own pace, being given immediate feedback at each step whether right or wrong. Learning is facilitated by reinforcing the correct performance. This may take the form of being told that the answer is correct, or that a certain amount of the work was already completed.[8]

Behaviorism in bibliographic instruction is visible in most of the self study workbooks used in teaching the reference sources.[10] The students work with specific sources, one at a time, step by step, writing their responses in the book. They receive their feedback and reinforcement by turning a page, or looking in some key, which tells them if their answer is correct or wrong. Each question has to be answered correctly before proceeding to the next. After completing the book, students are assumed to have learned the concepts of reference, and information retrieval.

Current research indicates that some behavioral methods of teaching are in direct conflict with our evolving knowledge on human learning. Starting instruction at the specific level does not always show the big picture of a discipline. Translating this to bibliographic instruction,emphasis on individual sources, may lead students to select and use the appropriate sources, but it does not provide for learning the general concepts of our discipline. In addition, it usually renders the students unable to transfer what they learn to new situations.

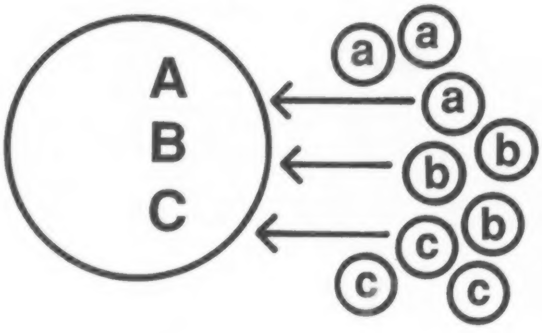
COGNITIVE PSYCHOLOGY

While behavioral psychology focused on observable behavior changes as a result of learning, cognitive psychology emphasizes the intellectual processes of the learner. Research in cognitive psychology has revealed findings leading to the development of cognitive learning theories that deviate sharply from behaviorism. In contrast to using animals as basis for theory construction, the cognitive psychologists developed their theories from classroom observations and investigations.[8] In recent years, cognitive techniques of teaching have been successfully applied to many different subjects and all age groups.

The cognitive psychologists see human learning not as a simple phenomena of a stimulus, response, and reinforcement, but a complicated set of internal processes which occur within a complex cognitive structure. By cognitive structure is meant a framework of already existing concepts. While the behaviorists view the human mind as too complicated, and better left alone, cognitive psychologists wish to explore and investigate it. They wish to open and study the black box. Their basic considerations are how people remember, how they retrieve information from the memory, and how they promote the retention of learned material.

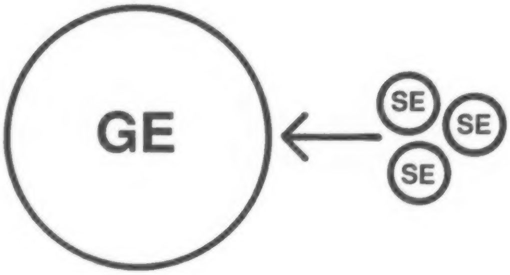
One of the first educational psychologist to understand the importance of cognition in learning was David Ausubel, who, in 1960, ahead of his time, expressed the main postulate of his learning theory in the following statement: " The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly ".[13] The basic component of this theory is the notion of "meanigful learning". Meaningful learning is a conscious effort on the part of the learner to relate the new knowledge being taught, to some relevant existing knowledge in the learner's cognitive structure. See Figures 2 and 3.

Fig.2: Meaningful Learning



In meaningful learning, new knowledge a,b,c, is linked with existing knowledge A,B,C.

Fig.3: Meaningful Learning

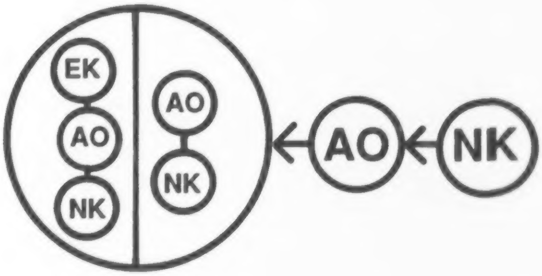


New knowledge, "Subject Encycopledias" (SE) is linked to existing knowledge, "General Encyclopedias" (GE).

According to Ausubel, knowledge in the human brain, as well as concepts of a science or a discipline, are arranged in a hierarchy from the general to the specific.[11] Therefore, teaching the concepts of a discipline from the general to specifics, enhances learning, because it corresponds to the hypothetical arrangement of knowledge in the brain. The cognitive approach to instruction is opposite to the behavioral approach. While behaviorists begin with specifics and proceed to generalities, cognitive instruction begins with generalities and proceeds to the specifics.

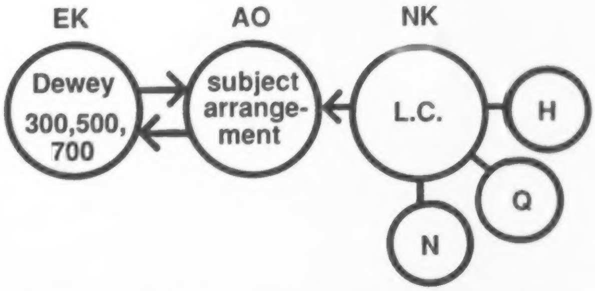
If meaningful learning is to occur, relevant knowledge must be present in the learner, or be placed there. Ausubel proposed a method which prepares the learner for receiving the new knowledge. The method employs Advance Organizers which are introductory materials presented before the new knowledge that is to be learned.[14] If relevant knowledge already exists, Advance Organizers compare the new knowledge with the relevant knowledge, linking the two; these are called Comparative Organizers. If relevant knowledge is absent,Advance Organizers serve as an introduction, creating a broader contex in which the new knowledge may submerge; these are called Expository Organizers.[16] Advance Organizers may be written passages, verbal statements, audiovisuals, graphs, and any other form that conveys information. See Figures 4 and 5.

Fig.4: Advance Organizers



Advance organizers (AO) will link new knowledge (NK) to existing relevant knowledge (EK). Where no relevant knowledge is present, AO will anchor new knowledge and help develop concepts which facilitate learning.

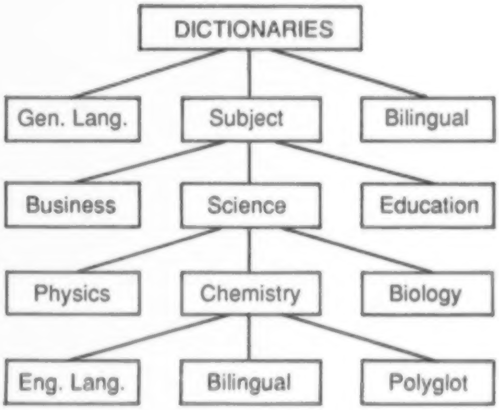
Fig.5: Comparative Organizer



Knowledge of Dewey classifications (300 Social Sciences, 500 Science, 700 Fine Arts) helps to anchor new knowledge, Library of Congress classifications (H Social Sciences, Q Science, N Fine Arts) through the concept of subject arrangement.

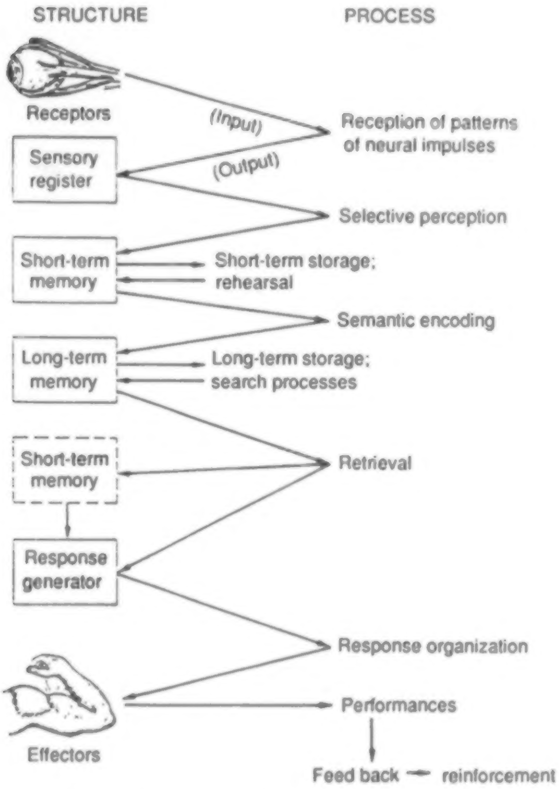
Joseph Novak, an authority on cognitive learning, devised a method of instruction called Concept Mapping, which facilitates and enhances meaningful learning.[17] A Concept Map is a diagram that identifies the concepts of a discipline, arranges them in a hierarchy, and shows relationships between them. Concept Maps have been shown to be useful in teaching, not only because they depict the hierarchical nature of a discipline, but also because they reflect the cognitive structure of the brain. See Figure 6.

Fig.6: Concept Map



Robert Gagne,[15] an educational psychologist, identified the internal processes of learning which he based on the Information Processing Theory of Learning. The theory portrays the human mind as a processor of information, similar to the computer's function of processing information. The human learner contains internal cognitive structures which undergo specific processes during learning. See Figure 7.

Fig.7: Gagne's information processing model of learning


STRUCTURE
PROCESS
Receptors
(Input)
(Output)
Reception of patterns of neural impulses
Sensory register
Selective perception
Short-term memory
Short-term storage; rehearsal
Semantic encoding
Long-term memory
Long-term storage; search processes
Short-term memory
Retrieval
Response generator
Response organization
Effectors
Performances
Feed back
reinforcement

From The Conditions of Learning, third edition, by Robert M.Gagne. Copyright 1977, by Holt, Rinehart and Winston, Inc. Reprinted by permission of the publisher.

Gagne identifies five categories of Learning Outcomes into which all human learning can be placed. These are Intellectual Skills, Verbal Information, Cognitive Strategies, Attitudes, and Motor Skills.[15]

Gagne also lists nine External Events of Instruction, which is the process of instruction.[15] Although he sees instruction as the input/stimuli from the environment, he is just as much concerned with the learners' internal cognitive processes, such as recall, generalization and encoding, which occur during learning. Although at first glance, the stimuli of Gagne's model resemble the stimuli in the behavioral model, this is not so. In the behavioral model, the stimuli are seen as prompts for the learners to react, while Gagne perceives the stimuli as supporting the internal processes of learning. Figures 8 and 9 explain Gagne's Learning Outcomes and External Fvents of Instruction.

FIG 8

GAGNE'S LEARNING OUTCOMES

INTELLECTUAL SKILLS
a) Discrimination (differentiation between objects, events,symbols,etc.) e.g. Learning the difference between a book and an article citation.

b) Concrete Concept (concepts by observation). e.g. Learning to identify books versus periodicals.

c) Defined Concepts (concepts by definition) e.g. Learning the meaning of a search strategy.

d) Rule (relationship between concepts, combining concepts.e.g.Learning to search ERIC on line.

e) Problem Solving (applying known rules to unfamiliar situations) e.g. Using other databases after learning ERIC.

VERBAL INFORMATION
Learning to verbalize facts. e.g. Explaining what Library of Congress Subject Headings are, what function they perform, and how to use them.

COGNITIVE STRATEGIES
Learning skills for self instruction and independent learning.e.g.Using concept maps when learning new discipline.

ATTITUDES
Mental states influencing choices. e.g. Learning positive attitudes towards libraries.

MOTOR SKILLS
Learning muscular coordination.e.g.Typing on the computer keyboard.

FIG 9

GAGNE'S EXTERNAL EVENTS OF INSTRUCTION

PROCESS OF INSTRUCTION

The Content and form representing the EVENTS vary with LEARNING OUTCOMES, and OBJECTIVES.

1. GAINING ATTENTION OF LEARNERS
   Raising curiosity, asking questions.

2. INFORMING LEARNERS OF OBJECTIVES
   Stating what the students will be able to do after the lesson.

3. STIMULATING RECALL OF PRIOR LEARNING
   Asking questions,giving answers, recalling facts,rules.Using Advance Organizer

4. PRESENTING STIMULI
   Presenting new information with definitions, facts,problems to be solved. Using Concept Maps.

5. GUIDING LEARNING
   Follow up of no.4.Providing analogies illustrations,examples,relationships, questions/answers,applying rules.

6. ELICITING PERFORMANCE
   Having students interact by participating. Asking questions. Having students design concept maps.

7. PROVIDING FEEDBACK
   Answering questions and explaining right and wrong answers.

8. ASSESSING PERFORMANCE
   Giving tests.

9. ENHANCING RETENTION AND LEARNING TRANSFER
   Providing opportunity to practice what was learned within a new contex, and unfamiliar situations.

The next four Figures (10,11,12,13) show how one can implement the Advance Organizers, Concept Maps, and the External Events of Instruction into a lesson on Periodical Indexes.

LESSON ON PERIODICAL INDEXES

FIG 10

LEARNING OUTCOMES:

1. Defined Concept=ability to understand what periodical indexes are, and waht is manual searching.
2. Rule=ability to follow the procedure of using an index.
3. Problem Solving=ability to apply the learned rules of using one index, to other indexes.

GAIN ATTENTION:
Ask for a volunteer to suggest a research topic. If nobody volunteers suggest a topic yourself. eg. subliminal advertizing.

STATE OBJECTIVES:
Students will be able to find relevant articles on subliminal advertizing in periodical indexes.

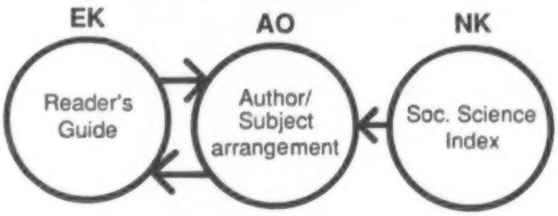
RECALL PRIOR LEARNING:
Here, Advance Organizers can be used.

If students are somewhat familiar with periodical indexes, use Comparative Organizer. It compares periodical indexes to some relevant knowledge already present in the learner.

If students are unfamiliar with periodical indexes, use Expository Organizer. It will provide a broad, inclusive contex, within which the new material (periodical indexs) can fit.

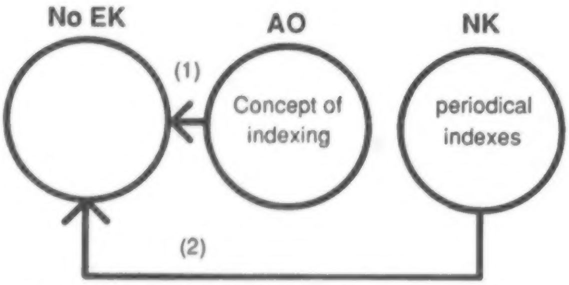
Fig.11: Two advance organizers for lesson on periodical indexes

Comparative Organizer


EK
AO
NK
Reader's Guide
Author/ Subject arrangement
Soc. Science Index

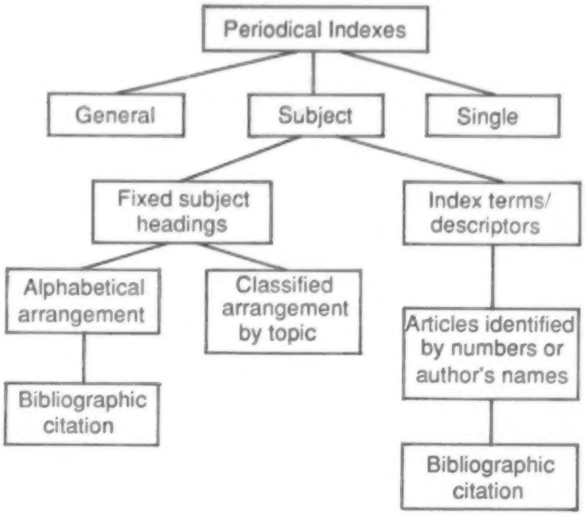
Compares the periodical indexes (NK) to the Reader's Guide (EK).

Expository Organizer


No EK
AO
NK
(1)
Concept of indexing
periodical indexes
(2)

Introduces the general, abstract concept of "indexing" to which periodical indexes can be linked and anchored.

Fig.12: Present Stimuli


Periodical Indexes
General
Subject
Single
Fixed subject headings
Index terms/ descriptors
Alphabetical arrangement
Classified arrangement by topic
Articles identified by numbers or author's names
Bibliographic citation
Bibliographic citation

Present new material to be learned. Define Periodical Indexes and draw Concept Map.

FIG 13

GUIDE LEARNING:

This is a continuation of presenting stimuli (new material to be learned.) Name some periodical indexes, and explain similarities and differences between them. Point out the difference in arrangement between Conventional Indexes which use Subject Headings, and Coordinate Indexes which use Index Terms or Descriptors. Example: Social Science Index vs Social Science Citation Index.

ELICIT PERFORMANCE:

Have students participate. Ask them questions. Have students draw Concept Maps from a different perspective. Example:A Concept Map showing more detail on the structure of periodical indexes.

PROVIDE FEEDBACK:

Always answer all questions. If students give wrong answer, always explain why it is wrong. Also explain why an answer is correct.

ASSESS PERFORMANCE:

Give tests. Try to avoid multiple or true/false questions. If possible give essay questions. Have students draw concept maps. This makes them identify major concepts and the relationships between them. Have students find relevant articles on the research topic suggested in class. (Subliminal advertizing)

ENHANCE RETENTION AND LEARNING TRANSFER

Provide opportunity to practice what was learned, in new situations. Example: Assign a new research topic which will necessitate using other periodical indexes, different from those discussed in class. If Social Science Index was discussed, have students research the Diagnosis and Treatment of Arterial Sclerosis, which would necessitate using the Index Medicus.

Meaningful learning is the goal of cognitive approach to instruction. Cognitive methods show our students the bigger picture of bibliographic structure and search strategies. With cognitive methods students learn the concepts and principles which guide their selection and usage of reference sources. Cognitive methods help students develop the skills for self instruction and independent learning, in which they can engage long after they leave our classrooms. Students learn how to apply the rules of searching to new information needs and new situations. This is called problem solving. They also develop positive attitudes towards libraries.

We had not choice before. We utilized the best methods that were available to us. But now we have options. We can stay where we are, or we can move forward by translating the research findings of the last several decades into a knowledge base, from which we can draw and enrich our programs.

The workbooks have educated generations of librarians and library users by providing the much needed reference skills. We can enhance bibliographic instruction by providing the conceptual framework also. Teaching skills and teaching concepts will complement each other. Cognitive teaching methods are adaptable, effective, and relatively simple to implement. Above all, they have the flexibility permitting the instructor to be creative. Some of us may be using the cognitive approach already. Those who are not, I urge you to try it. We owe it to our students.

ACKNOWLEDGEMENTS

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LEARNING STYLE: ITS PLACE IN LIBRARY INSTRUCTION

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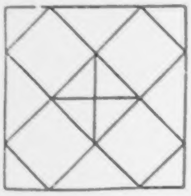
Abstract. Everyone has a learning style--a uniquely individual, yet finely tuned mode of perceiving and interpreting information. Sound instructional practice indicates better learning and retention occur when learning styles are addressed in any kind of instructional setting. In the many and varied learning environments of a library, applying learning style theory presents a number of challenges. As a beginning point, the construct of learning styles, like love, is dependent on the individual user for definition, experience and application.

Many questions are raised when examining learning styles in an information/instruction environment. Is it possible to define learning styles in an information environment? Are there identifiable characteristics of the field independent/field dependent learning styles in an information/instruction setting? Is it possible to identify teacher learning styles and show how they affect student learning? And what are the pragmatics of incorporating learning style theory into library instruction programs? The end result will be to present specific suggestions and instructional techniques for incorporating learning style theory into library instruction or information environments.

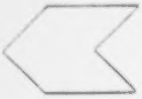
Keywords and Phrases. learning styles; library instruction; classroom application; cognitive style; teaching style

DEFINING TERMS

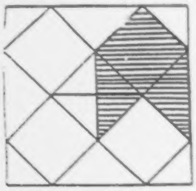
Everyone has a learning style,[1] a uniquely individual, yet finely tuned mode of perceiving and interpreting information. It is one's learning style that is the key to how a person functions in an instruction or information environment. As an example, what do you see when you look at this figure?



Your learning style helps you discern a box-shaped X or possibly a quilt-block pattern when looking at this diagram. From the viewpoint of cognition, it is learning style that helps you find the imbedded figure of this arrow



within the overall complex figure design.



The construct of learning style, like love, is a highly personal matter. The length, breadth and depth of one's experience with love and learning are dependent on myriad circumstances and situations. Interpreting learning styles in a library or information environment is a challenge and brings several questions to mind. First, what is the definition of learning style in a library or information environment? And second, what are the pragmatics of incorporating learning style information in library instruction.

Learning styles in education and information environments are characteristic cognitive, affective and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment.[2] Or as Hunt proposes in his 1978 article, "learning style is the educational condition under which a student is most likely to learn."[3] Examining learning styles in an information environment and suggesting possibilities for addressing learning styles in library instructional settings presents many challenges.

The history of learning styles and subsequent research is long and involved. Around 1900 psychologists in Germany were developing an interest in a number of different forms of "learning modes" or learning styles. The further research of Jung, Allport, Lowenfeld and Klein expanded the knowledge base on learning styles and identified styles or preferences for learning. Current studies have tended to look more at the outcomes of learning style and concentrate on personality, achievement and student-teacher interaction. In a recent publication entitled, Learning Styles: Implications for Improving Educational Practices, Charles Claxton and Patricia Murrell review the salient issues of learning styles as they relate to character traits, reasoning ability, classroom contact and teaching techniques.[4] Claxton and Murrell's review of the existing literature and their discussions of the major theories and models of learning styles are thorough and extensive.

The literature on learning styles generally divides the subject into three major components--cognitive, affective and psychological behaviors. In an information environment, one of the first major concerns lies with cognitive behaviors or cognitive style. Cognitive style is the information processing habits representing a learner's mode of perceiving, thinking, problem solving and remembering.[5] Cognitive style in a library instruction setting then becomes a matter of an individual's characteristic modes of perceptual and intellectual functioning, how an individual understands and categorizes individual variations in modes of perceiving, remembering and thinking. It is one's cognitive style that must utilize Library of Congress Subject Headings, boolean connectors, index formats, library-class lectures, point-of-use-guides and inductive or deductive approaches to search strategies.

LEARNING STYLES AND LIBRARY INSTRUCTION

How a learner's cognitive style melds with a library can be described as the way in which a patron perceives and interprets materials in an information environment. This "fit" with cognitive style in the library or information environment has been alluded to in a number of ways in library instruction literature although not labeled specifically as what-to-do-about-cognitive-learning-style-in-library-instruction.

As early as 1975, Elizabeth Frick addressed the importance of the ways in which students "conceive of information gathering in the context of library resources."[6] In her article, she postulates that a student's form of information gathering will have a bearing on the manner in which they actually find the material and eventually use it. Similarly, Pamela Kobelski and Mary Reichel specifically state that "learning is highly dependent on the cognitive structures available to the student."[7] They continue to posit the use of cognitive structures as a means of helping students harness the existing mental structures of what is to be learned. Reichel and Kobelski further suggest seven conceptual frameworks as a means of providing a necessary basis for learning in bibliographic instruction.

It is an article by Stoffle and Tuckett, however, that brings together the many threads of learning style and library instruction in "Learning Theory and the Self-Reliant Library User."[8] As they review and describe the varying pedagogical models, they strike a chord of learning or cognitive style with each model. For example, when they describe problem-solving skills as cited by Cerise Oberman with the guided design approach, learning styles of both the teacher and student are integral parts. In the guided-design approach, students work through a three-stage process or learning cycles: discovering new concepts, analyzing those concepts and finally applying them. This process allows for assimilation of the material at the level of the learner's style. Equally important is the emphasis with learning cycles for the instructor to promote open-ended problem-solving activities and small group instruction where the instructor can foster as much guidance as may be deemed necessary. In their concluding remarks, Stoffle and Tuckett state emphatically that "library-user education in which principles of learning theory are rigorously applied to instructional design appears to offer great potential for aiding instruction librarians in achieving the goal of developing self-reliant library users."[9]

When Jean Sheridan suggests that librarians begin to review their methods and styles in bibliographic instruction classes where adult learners are involved, she uses the literature to support her case. Her recommendation of an androgogical approach involves both the learner and teacher, for both teacher and student bring to class many years of instructional exposure. She sides with neither one, but leaves the responsibility of learning and teaching equally balanced and cites using learning styles and teaching styles as the cogent point of consideration for instruction. How, she queries, can instructors become acquainted with the ways of learning which will encourage self-direction and self-organization for the learner?[10]

Keeping these issues in mind, the question of how to incorporate learning style or cognitive style into library instruction must be raised. Several important strategies emerge from the available literature written on cognitive style learning as it relates to an information environment.

INCORPORATING LEARNING STYLES INTO LIBRARY INSTRUCTION

First and probably foremost is the importance of reception and analysis of data. How we view and understand data is critical in library settings. The first visual contact with data is often extremely important. One example of this at our library is to recall the number of patrons (though generally not students) that have walked into the lobby, looked beseechingly for the card catalog and when they realize they must use the online catalog, simply turn around and walk out the door. In this case, visual contact was the essence of information exchange failure.

The second factor--concept formation and retention--is concerned with hypothesis generation, problem solving and memory processing. These components are generally well-established characteristics of learners long before they enter a library setting. How often have we found ourselves explaining what an index is or does to a patron who we thought surely would understand. And we find ourselves wondering as their blank look tells us they don't really seem to be understanding that a Readers' Guide Index and the Public Affairs Information Service do the same thing but with a bit of a different twist.

CHARACTERISTICS

Along with the strategies of cognitive style are the models of learning styles that relate specific ways in which people learn on a personal level. Many models exist in the current literature on learning styles. However, one model works well for an information environment. For cognitive learning styles involving reception and concept formation strategies the model researched by Herman Witkin referred to as field dependence-field independence is particularly appropriate.

In the early 1950's researcher Herman Witkin introduced his learning style theories on dimensions of cognitive style beginning with visual/perceptual studies.[1] He wanted to know how it was that people differentiated pieces of information, put them back together again as a whole and then used the information. His original visual/perceptual studies expanded and he extended the areas of his research to include personality, achievement and human relations components.

Witkin's field-independent-dependent model involves knowing to what extent a person's perception of an item--or in this case, information--is influenced by the context in which it appears. As an example, let's try to define the term "library".

How do you define a library? Take a few seconds to think about what it is that makes up the definition in your mind. Do you happen to think of a library as a storehouse of information? Or perhaps a building housing books, microfiche, indexes, archives?

Witkin's model of field independence-dependence transposed with the necessary components of cognition for reception and concept formation sheds a great deal of light on how learning occurs for individuals and what their particular style might be.

First let's define field dependence/field independence and then overlay reception and concept formation and finally apply this to your definition of a library.

Field independence-field dependence learning styles involve contrasting modes of information processing strategies.[12] On an information continuum, the two can be defined as a cognitive learning style where the:

* field dependent learner approaches information analytically, seeing things apart from the background material, tending to differentiate among learning experiences and approach problems both systematically and analytically;

* field independent learner approaches information in a non-analytic way and sees a more holistic pattern to the material and the integrating of all information parts.[13]

Let's go back for a minute to defining a library once again. When we analyze the beginning definitions of the term "library," the more global perception--the storehouse of information--surfaces as field dependent while the definition breaking the term into it's component parts of individual items constituting the whole, would be field independent.

Professor Witkin's theory carries with it a decidedly self-diagnostic flavor. At first glance it is often intriguing to consider the cognitive styles of those you know or even your own cognitive style. While formal assessment measures have been constructed by a number of different researchers, several informal checklists can be found in the learning styles literature.[14]

LEARNING STYLE CHARACTERISTICS

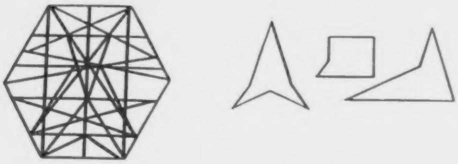
Field Dependent	Field Independent
perceives globally	perceives analytically
experiences in a global fashion adheres to structures as given	experiences in an articulated fashion, imposes structure of restrictions
makes broad general distinctions among concepts, sees relationships	makes specific concept distinctions, little overlap
social orientation	impersonal orientation
learns material with social content best	learns social material only as an intentional task
attends best to material relevant to own experience	interested in new concepts for own sake
requires externally defined goals and reinforcements	has self-defined goals and reinforcements
needs organization provided	has self-structured situations
more affected by criticism	less affected by criticism
uses spectator approach for concept attainment	uses hypothesis-testing approach to attain concepts

This checklist for characteristics of field independent/field dependent learners further delineates the differences in very basic terms. Of course, it goes without saying that all learners do not fall so conveniently into two basic categories. But out of curiosity, do any of you see yourselves as field independent or possibly field dependent? Or even a combination of both?

By adding different facets to Witkin's originally bipolar dimensions, it is possible to expand meanings of field independency and field dependency into other areas. Overlaying reception and concept formation further involves the learner and his or her particular style in the learning process. For example, the visual reception of information is an important factor when looking at the geometric figures originally displayed in the beginning of this talk.

The task of looking at this figure and discerning the imbedded figure of the arrow is distinctly different for the field independent/dependent learner.

Seeing the whole figure first, or the more global perception, is generally the case for the field dependent learner. Differentiating the isolated figure more rapidly is accomplished by the field independent learner.[15] This pattern and the differentiation of the imbedded figures shown below provides varying reception and concept formation tasks for learners and is used as part of a battery of assessment measures for establishing cognitive styles.



At first glance, it might appear that faster is better, however, the key to establishing one's field independent/dependent style lies not in the extreme of positioning one cognitive style over another, but in analyzing and understanding the means and the time taken to discern the figures and the complexity of the problems. The valuable question is how the learner has established the requisite solutions needed for information utilization and retention.

To suggest that only Witkin's two dimensions of learning style exist, is to offer a far too simplistic view of learning style research and theory. Under reception styles alone, a number of other models have been researched involving such varied aspects of reception as perceptual preferences (kinesthetic/psychomotor; visual/spatial; auditory/verbal), focusing or scanning, construction vs. flexibility or tolerance for the conventional vs. the unconventional. Concept formation and retention styles include a like number of factors such as tempo of learning, conceptualizing styles, breadth of categorizing, complexity, style and variations in memory processing.[16] All of these component parts support the multi-faceted reasons which individualize learning style.

Add student motivation as a somewhat intangible but moving force in the instructional process and further characteristics showing the differences in field dependent/independent learners appear. Verbal praise, external rewards and providing outlines and structure are motivators for field dependent students. Grades, competition, personal goal charts and examples of a task's usefulness are motivators for field independent students.[14]

The routine approach to defining a student's learning style appears to have been done by learning style inventories. A number of formal and informal assessment measures exist, and student checklists are often used as one means of assessing learning style. For those library classes lasting a semester where there is frequent contact, the more formal learning style assessment measures might be possible and valuable.

Admittedly though, it would be an impossible and an unlikely situation to administer learning style inventories or assessments for each student involved in brief library instruction sessions. Furthermore, teaching to each individual learning style is simply not possible in the kinds of limited-contact, one-session formats many library instruction classes must take. The question then becomes one of what might be done to accommodate for cognitive style in the library classroom setting since sound educational practice indicates better learning and retention occur when learning style is addressed.

CLASSROOM APPLICATION

I would like to suggest that accommodating for learning styles in a library instruction setting should begin with the instructors. To accomplish this, it is necessary for library instruction programs and instructors to stress the importance of acknowledging learning styles as a valid component of learning theory for any library instruction situation. A basic knowledge of the existence and instructional importance of learning styles would be helpful for all library instruction. Accommodating for individual learning styles in any type of teaching setting will be accomplished first by establishing an awareness of the diversity of learning styles.

Research in the area of library instruction and learning styles appears to be an aptly-matched area of study offering a great deal of potential for library instruction. Creating an awareness of learning styles for instructors in the library instruction classroom is an essential first step. Helping instructors assess and examine their own cognitive styles is an equally important first part of this step. Earlier this spring, I mailed over 100 questionnaires to a random sample of librarians currently teaching in instruction programs across the United States, asking them to talk about their teaching, what approaches they liked most, liked the least and whether they were familiar with any of the materials or literature on learning styles theory. The return information may shed more light on teaching and approaches of learning styles currently happening in academic libraries.

The ways in which teachers relate to students, classrooms and materials are of great importance in any instructional setting. The literature tells us that "students left to their own devices will do what comes easiest for them--which is to use their own learning style.[18] This leaning back approach, however, tends not to enhance any of the other skills the student might need to develop and also allows the teacher an easy route. Awareness of cognitive styles, again, seems to be the answer for both student and teacher. Hyman and Rosoff[19] take this one step further and suggest keeping three elements in mind: the teacher, the student and the subject matter which interrelate in an environment and in a particular time period. They point out that when teaching is going on, there are actually five elements present; teacher, student, subject matter, environment and time. They recommend that teachers recognize the constantly changing nature of teaching itself. This is to say that the material taught is not static but rather very dynamic. Add to this the changing nature of information and the changing nature of the student.

Libraries are now filled with new information access points, complex equipment, and students of different cultural backgrounds, ages and abilities. As instructors out there in the day-to-day routine, I am sure you are aware of this constant flux of student, information source and material. Many times, in the last year, I felt "out-technologied" and sometimes overwhelmed. As I prepared for new classes, I experienced all of these things until I slowed myself down and looked at how it was that I learned these new systems and the information I needed to know to teach them. It was the awareness of my own learning style as an instructor that afforded me a solid information and instructional base and provided support for dealing with changes in students and information sources and what I knew I needed to teach.

Just as you may have been able to discern a few of the characteristics about your own learning style from the checklists and imbedded figure diagrams presented during this talk, further research into the field of learning styles has yielded distinct variations in teaching styles. These can be seen from the following examples of observed teacher behaviors in classrooms and approaches to instruction.[20]

Instructors perceive and make sense of the learning environment and their own effect on the instruction through their own cognitive style. Mary Jane Even, in an article on adapting cognitive style into applied classroom situations, suggests additional examples of observed instructional practices.[21]

Along with the examples from the checklist, she suggests a number of points to keep in mind when preparing for an instructional session. I have added suggestions to her original list and feel these five points can easily be adapted for library instruction classrooms.

1. As an instructor, maintain an awareness of your own cognitive style. Are you field independent/dependent or possibly another one of the many other styles? If the literature on learning styles is unfamiliar, explore materials written by Rita Dunn, one of the leading researchers on learning styles. She has written many helpful articles and books on the subject, geared for practical classroom use. Researchers in the field of educational psychology such as Witkin, Gregorc and Garger have written clear and useful articles on the subject. The entire Winter, 1984 issue of Theory Into Practice offers a collection of eleven articles on learning styles from the perspectives of eighteen different author/educators. Try reading these materials and then move to articles discussing library instruction. The groundwork of incorporating learning style into library and information environments is there with Reichel, Kobelski, Oberman, Stoffle and Tuckett and Sheridan.

2. Be aware of the different variations of cognitive styles of students in a classroom--the fact that no two people learn in the same manner is not and should not be a new phenomenon to instructors. Even the diversity of learning styles within our particular group was discovered today. Accommodating for variations in learning styles may involve changes in the ways materials are presented or format styles used. Where a series of handouts have been the traditional means of information dissemination, other approaches to material presentation may be needed. However, a word of caution may be due here. Incorporating learning styles instruction into your teaching does not mean completely revamping a teaching style. Accommodating for variations in style may simply come about through changes in information presentation. And above all, classroom learning objectives and goals will remain the same.

EXAMPLES OF INSTRUCTIONAL PRACTICES

Students	Field Dependent	Field Independent
Techniques		
work alone	___can't do well	___prefer it
lecture only	___not good	___very good
film	___good	___ok but not needed
discussion	___greatly needed	___prefer not
small group tasks	___greatly needed	___can't stand
use of outline/story	___a must	___only outline needed
questioning/discussion	___does not handle well	___can structure ideas and answer quickly
Teacher Characteristics		
personal warmth	___need	___do not care
caring/friendly	___need	___do not care
supportive behavior	___need	___do not care
all business approach	___scares them	___prefer it
formal, organized/ logical assertive	___a must	___prefer it
handouts/outline	___a must	___prefer it

3. Permit flexibility where possible for students. As an example, offer options such as small-group, work sessions or opportunity for discussion during a class period. This variety of approaches to the same materials provides an opportunity for a number of learning styles to be accommodated.

4. Analyze the ways in which your style may bias your classroom teaching technique and presentation of materials. While a standard lecture approach (that of the field independent instructor) may have been historically the traditional information delivery means, it may only reach a handful of those field independent students in a class. Varying an instructional session with part lecture or part demonstration might reach more of a variety of learning styles.

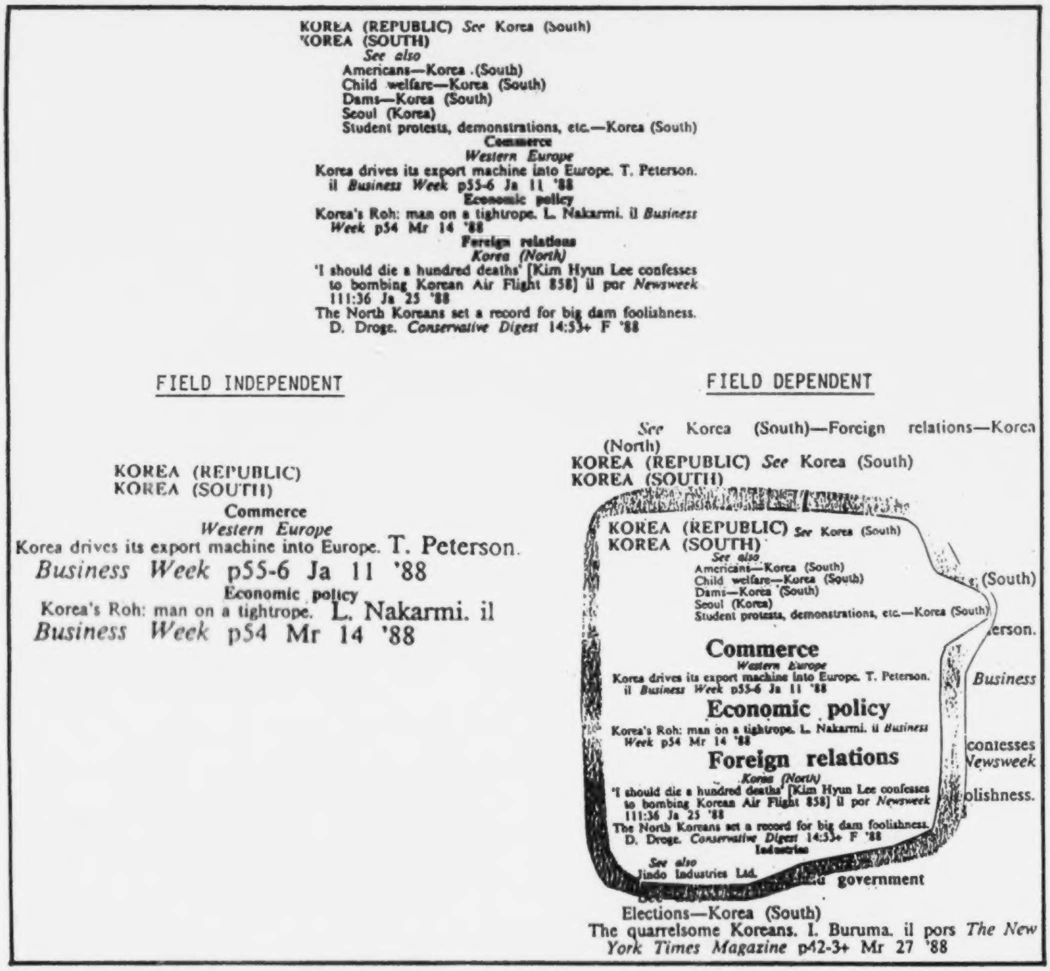
And finally,

5. ascertain if there are preferred styles and strategies necessary for the subject you teach and set up learning processes to help students with these strategies. Going back to basic field independent and field dependent examples, this is visually apparent when teaching the use of periodical indexes.

Formats of indexes can vary greatly, however, looking at a basic format such as the Readers' Guide, I would like to suggest that standard citations in the example below take on the following characteristics when viewed by the two, very different field dependent and field independent learners.

Salient bits of data jump out for the field independent learner. Numbers, figures, tidbits of trivia fairly leap off the page. For the field dependent learner, the whole page is of importance, something to be savored, the facts slowly emerging from the whole after the entire visual field has been scanned. But for both, the seminal information on the citations, about South Korean Commerce are the end result of information retrieval.

Information format is a visually significant example of why the process of decipher-



KOREA (REPUBLIC) *See* Korea (South)
KOREA (SOUTH)
See also
Americans—Korea (South)
Child welfare—Korea (South)
Dams—Korea (South)
Seoul (Korea)
Student protests, demonstrations, etc.—Korea (South)
Commerce
Western Europe
Korea drives its export machine into Europe. T. Peterson. il *Business Week* p55-6 Ja 11 '88
Economic policy
Korea's Roh: man on a tightrope. L. Nakarmi. il *Business Week* p54 Mr 14 '88
Foreign relations
Korea (North)
'I should die a hundred deaths' [Kim Hyun Lee confesses to bombing Korean Air Flight 858] il por *Newsweek* 111:36 Ja 25 '88
The North Koreans set a record for big dam foolishness. D. Droge. *Conservative Digest* 14:53+ F '88

FIELD INDEPENDENT

KOREA (REPUBLIC)
KOREA (SOUTH)
Commerce
Western Europe
Korea drives its export machine into Europe. T. Peterson.
Business Week p55-6 Ja 11 '88
Economic policy
Korea's Roh: man on a tightrope. L. Nakarmi. il
Business Week p54 Mr 14 '88

FIELD DEPENDENT

See Korea (South)—Foreign relations—Korea (North)
KOREA (REPUBLIC) *See* Korea (South)
KOREA (SOUTH)

KOREA (REPUBLIC) *See* Korea (South)
KOREA (SOUTH)
See also
Americans—Korea (South)
Child welfare—Korea (South)
Dams—Korea (South)
Seoul (Korea)
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Industries
See also
Jindo Industries Ltd.

government
Elections—Korea (South)
The quarrelsome Koreans. I. Buruma. il pors *The New York Times Magazine* p42-3+ Mr 27 '88

ing citations for some individuals may go smoothly or provide a very rocky experience for others. Offering two options visually is only one way to meet the learning needs of both learning styles during the course of an information/instructional session. Along with the two visual formats, offer discussion of the citation information, deciphering techniques and questioning opportunities.

It appears that teaching style ultimately governs the learning situation in a classroom both from the ease of information assimilation on the part of the learner and from an instruction viewpoint for the teacher. Valuing the uniqueness of a teacher's teaching style and the learner's cognitive style is always needed. Fortunately the research on learning styles is continuing. This awareness is seen in the latest research on learning styles which involves assessing both teacher and student learning styles and then computer matching teachers with students by styles.[22]

CONCLUSION

Information on learning styles has come about through research carried out over the last forty years and by evaluating the learning styles of many thousands of students and instructors. Herman Witkin in a paper entitled "Cognitive Styles in the Educational Setting" sums up the main importance of introducing learning style awareness when he states, "At the heart of a cognitive-style approach is an emphasis on the recognition and use of diversity among individuals.[23] In other words, everyone has a learning style and the value of the learner lies in the individuality of her or his learning style.

Witkin also goes on to emphasize the point that the value of one learning style intellectually outshining another style should carry little concern. The valuing of a person's learning style, he insists, is the essence of the theory. Although Witkin's research indicates that cognitive styles are independent of intelligence, the very idea of one's style for learning or for teaching holds relevance only in HOW the learning takes place rather than HOW MUCH.[24]

By using this particular talk as an example of information presentation, I had hoped to begin to piece together the research on learning and cognitive styles with that of library instruction and to incorporate formats readily assimilated by both field dependent and field independent learners.

But the responsibility of whether or not I was able to enlighten you and myself and still address the learning style diversity of this particular audience hangs very heavily over my shoulders. I found out that the suggestions by Mary Jane Even were helpful but that my own teaching style needed occasional harnessing. I knew I should acquaint you with learning styles in a number of ways--visually with figures and charts, engaging you as learners with questions, analytically and nonanalytically through varying formats and with flexibility, which I hope will come through the discussion period at the end of the presentation. While I was aware of what I should be doing instructionally to accommodate the various learning styles of this group, I truly had to change a few of my original ideas and customary approaches. I learned first to concentrate on practicing what I was preaching! But in the end, I found the overall teaching experience very rewarding for I felt I had worked on the material involved in getting this presentation together in a much more eclectic manner and had avoided a few of my usual, tunnel-vision approaches. In the process of teaching to varying learning styles, I knew I had learned and increased my own awareness of the information on learning styles and of my own teaching/learning style tenfold.

As you go out to face your next group of students or individuals in a library's instructional setting, I challenge you to be aware that everyone has a learning style in an information environment. Take learning style into consideration as a viable construct in the library or information environment as it involves cognitive behaviors or learners while they perceive, interact with and respond to an information environment. Consider the nuances and idiosyncrasies of your own learning style and try to assess how your own learning style impacts on your methods of instruction. As instructors you will be stretched and your teaching improved as you provide students with learning opportunities in an information environment that will complement or maximize their learning style. For in the end, the yield of learning will be for two, that of student and instructor, rather than just one.

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V.
COLLECTION DEVELOPMENT

WHOSE MONEY IS THIS ANYWAY?
BUDGET ALLOCATION AND SELECTION RESPONSIBILITY IN COLLEGE LIBRARIES

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ABSTRACT. In spite of considerable progress over the last 100 years, many college libraries still allocate their materials budget on the basis of rigid departmental divisions and allow faculty to assume the major responsibility for selection of books and journals. While faculty involvement in selection is necessary in smaller libraries, departmental allocations can often be greater sources of problems than solutions to them. A far less politically-charged solution, and one which can lead to greater cooperation between faculty and librarians, is to create a materials budget divided by nondepartmental categories based on collection growth and service objectives.

Keywords and Phrases. College and university libraries - book selection, acquisitions-policy statements, library budgets, college and university libraries - relations with faculty and curriculum.

INTRODUCTION

One of the most debated issues in academic librarianship has been over who should select materials for library collections. The issue of selection in academic libraries large and small has been one of the issues that helped determine librarians' relative status within their academic communities.[1] Intrinsically linked with the issue of selection has been the issue of to what degree librarians should control the materials budgets of their individual libraries. For college libraries in particular, a review of the literature of the past one hundred years indicates some shift in the control of these budgets and the responsibility for selection from the teaching faculty to the librarians. This paper will examine two trends in college librarianship: first, the shift from budget allocations by department and exclusively controlled by the faculty, to a materials budget subdivided by nondepartmental categories and primarily the responsibility of the librarians, and the second, linked with the first, more participation by librarians in the selection process. While important changes have occurred in college libraries, complete control of selection or the materials budget was neither possible for these libraries in 1889, nor is it today.

HISTORICAL BACKGROUND

The late nineteenth century was a period of great change for American colleges and universities.[2] Following the model set by the German universities, coursework began to emphasize use of outside materials for research, instead of simply examining a single text. At the same time, the teaching faculty began to be more involved in research and writing. Both of these new areas needed better library collections to support their activities.[3] Library appropriations began to rise to meet the demand for more new materials. However, because of the lack of appropriately trained staff, and again, the emphasis on following the German model of academic organization, control of these appropriations, and frequently the location of the actual collections, was placed in the hands of the faculty.[4] Thus, the situation in 1889, the year in which the College Library Section of the American Library Association was founded, was as follows: most academic libraries had a librarian, who might or might not have any training or experience in librarianship, running the daily operations of the library, but the responsibility for allocating the materials budget and for choosing these materials was given to the faculty. In particular, the library budget was usually under the control of a library advisory committee, comprised of teaching faculty from a variety of departments. This sort of arrangement has been referred to as the "self-effacing" mode of librarianship.[5]

One of the first subjects that the growing body of professionally-trained librarians began to discuss was the extent to which librarians, who were responsible to the university authorities for their library's operations, ought to control the allocation of the book budget and the selection of materials. As early as 1897, Alfred Potter, of the Ordering Department of Harvard College Library, spoke to the College Library Section at the Philadelphia ALA conference on the selection of books for college libraries. While Potter did not think that all responsibility for book purchases should rest with the librarian, he did think that there should be "at least an advisory and preferably a veto power," to keep the faculty from wildly spending an entire departmental allotment on special editions of interest to only a few people.[6] Potter proposed having special arrangements with book publishers and dealers to have the books sent for examination by the librarian and the faculty, an early proposal for the approval plans now available in many libraries. Potter's reason for not advocating complete librarian control of selection and the materials budget was because he thought that this would make faculty lose interest in the library. Potter did think that all unspent departmental allocations should revert to the librarian at least six weeks before the end of the fiscal year, to be used at his or her discretion.[7]

The issue of faculty vs. librarian control of the college library materials budget was again a topic of discussion at the 1908 ALA conference in Minnetonka, Minnesota. Theodore Wesley Koch, library director at the University of Michigan, gave a paper on the apportionment of book funds in college and university libraries. Koch said that faculty control of department allocations, while in theory a good system, was in fact less than perfect-- "the university library is apt to become a series of collections on special subjects with very little to cement those parts together."[8] He proposed a large discretionary fund to be put at the disposal of the librarian, who would thus be able to fill in the gaps left by the faculty. While the other academic librarians present approved of Koch's proposal, they were pessimistic about getting such a system adopted at their libraries. Most of them were at least on the committees that determined the departmental allocations, and thus had more control of the process than Potter had had in 1897. Several also had systems which allowed unspent funds to revert to library for the last part of the fiscal year, and could be used at their discretion.[9] At the 1927 ALA Midwinter conference, the head librarian at Grinnell College, Isabelle Clark, spoke on "Independence for the College Library," and urged that more responsibility for the library collection be given to the library staff. In particular, she proposed ending departmental allocations and having a single library budget. The faculty would be involved with selection, but the final responsibility would lie with the librarians.[10] The idea that librarians should have more, if not complete, responsibility, for allocation and for selection continued to be discussed in the professional literature.[11] In 1937, J. Periam Danton, in a speech at the ALA Annual conference on the role of the college library and college librarians, criticized the current practices of direct departmental allocations, and reversal of unspent funds to the college general fund at the end of a fiscal year, and urged that the bulk of the budget be allocated to the librarian.[12] In the first issue of *College and Research Libraries*, Nathan van Patten of Stanford wrote that, "It is a much more satisfactory arrangement to have a single book fund from which all purchases are made and to place the responsibility for the control of this general fund in the hands of the librarian."[13] Their colleagues in the 1930's were less radical in their calling for full librarian control of selection, but thought that the librarian should have control of the *allocation* of the materials budget, since without such control it was difficult to have an overall collection development plan for the library.[14]

One development of the late thirties was an increased interest in developing allocation formulas. These formulas were based on a number of factors: the number of courses or students, the existence of graduate programs, or the amount of research done by faculty.[15] Formulas were seen as a relatively simple, objective, and apolitical way of dividing the budget. Librarians could be more involved in developing these formulas, but at most institutions the faculty still controlled the actual selection process. In the same way, the growth of approval plans in the last 25 years has let libraries to base their allocations on the size of the literature of the field.16 This again probably allows the librarians involved more control over their allocation process.

In 1949, Robert Vosper of U.C.L.A wrote that, "it was virtually a truism that the librarian or the librarian and his advisory committee should have central control over or knowledge of all funds for book buying."[17] Large university libraries grew rapidly through the post war years. Teaching faculty were spending more of their time doing research and publishing. They had less time to make selection decisions and were generally glad for the librarians to assume more responsibility.[18] By the 1960's many large libraries had developed departments of subject bibliographers, who had primary responsibility for selection. However, at college libraries, which neither grew as rapidly nor had the resources for subject bibliographers, the faculty continued to dominate both allocation and selection.[19]

Probably more than anything, the availability of approval plans over the last 25 years has changed the allocation and selection process for some college libraries. As mentioned before, these have made it easier for libraries to allocate materials budgets in new ways.[20] Since these require payment from a single source, and are frequently not broken down along narrow subject boundaries, some college libraries that depend heavily on approval plans as a means of selection have been able to abandon direct departmental allocations.

LINKING THE PAST AND THE FUTURE: A PROPOSAL FOR CHANGE

At present, my impression from colleagues is that most academic librarians at college libraries probably have some control over the allocation and selection processes. At the least they are involved in collection building.[21] This is a great change from the nineteenth century, when the college librarian was little more than a custodian of collections selected by the faculty. However, college librarians appear to have far less control over allocation and selection than their counterparts in research and university libraries. It is important that college librarians continue to work to achieve a partnership with faculty in these areas. Departmental allocations were originally set up to prevent certain departments from using an excessive amount of the library materials budget. But even in the best of times there is rarely enough money to give every department all that it considers necessary. The allocation system can become a constant source of friction between the librarians and the teaching faculty, and between the departments themselves. Furthermore, since smaller academic libraries cannot afford to have a large number of subject bibliographers, the teaching faculty will remain an important source for collection development decisions, whether or not the librarians or the faculty are designated the principal selectors. In 1964, Harry Bach asked, "Why Allocate?"[22] But we will always have to do some sort of allocation; the real issue is whether we will allocate by department. There are other much less politically-charged ways to divide a budget. Such alternatives can reduce interdepartmental tension as well as increase librarian involvement in the selection process. This in turn should facilitate cooperation between teaching faculty and librarians in a variety of areas. While I am not advocating monolithic central control, most college libraries are in institutions that are small enough to eliminate most possible problems of such a system. The benefits should outweigh any disadvantages.

CONCLUSION

In spite of the considerable progress that college librarians have made over the past 100 years, many smaller academic libraries still use rigid departmental allocations and allow the faculty to assume the major responsibility of selection of books and journals. While faculty involvement in selection is necessary in smaller libraries, departmental allocations can often be greater sources of problems than solutions to them because of their inherent political nature. A solution for college libraries is to create a materials budget divided by nondepartmental categories based on the collections growth and service objectives. This approach can potentially lead to more involvement of librarians in the selection process, better knowledge of collections for both faculty and librarians, and increased cooperation and collaboration between librarians and their faculty colleagues.

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OVERLAP AND DESCRIPTION OF PSYCHOLOGY COLLECTIONS IN RESEARCH LIBRARIES

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Abstract. This study explores the relationships among the characteristics of psychology monograph collections in research libraries and the title overlap between the collections. Most overlap studies have shown that there are significant amounts of unique materials in the samples studied. Some evidence suggests, however, that there is greater overlap of specific subject materials in research libraries which support advanced study and research in a subject. Proportionate random samples from the psychology monograph holdings of three libraries were used to determine the overlap and the characteristics of each collection.

The major findings of this study are:
the overlap of psychology collections is much greater than the overlap found when entire library collections are sampled;
the unique titles tend to be the older and the foreign language materials;
each of the libraries contributed unique titles to the sample and each would benefit significantly from access to the unique titles in the other collections.

Keywords and phrases. Collection management, overlap studies, psychology collections.

BACKGROUND

Overlap studies, which try to determine the extent to which libraries duplicate the holdings and acquisitions of each other, have been done for a variety of reasons. Potter, in a review of overlap studies, classifies them into four types: studies relating to union catalogs, studies of centralized processing, studies involving cooperative collection development, and research studies [1]. While Potter states that it is difficult to generalize because of the diversity of these studies, he is able, nonetheless, to report the following conclusions:

> the extent of collection overlap is dependent on the age, size, and type of libraries in that the probability of overlap increases with size of library but decreases when libraries compared are of different age or type;
>
> of all the titles held in common by a group of libraries, a large proportion of them will be unique to one library (50% to 86%);
>
> given the degree of collection diversity, schemes aimed at cooperative collection development may not be needed to avoid duplication among collections;
>
> overlap studies have been based upon small samples necessitated by the labor involved in conducting these studies [2].

Overlap of materials within a specific subject has not been investigated to the extent that general overlap has. Some evidence suggests, however, that there is greater overlap of specific subject materials in research libraries which support advanced study and research in the subject than there is for subjects in which advanced programs are not offered. A study by Knightly found much greater overlap among subject collections in academic libraries supporting doctoral level programs than among subject collections that do not support doctoral level programs [3]. The composite average duplication of recent U.S. books in the three broad subject groupings of humanities, sciences, and social sciences by type of degree program was:

	Ph.D.	Masters	Bachelors	None
Humanities	73%	61%	50%	35%
Sciences	75%	48%	39%	45%
Social Sciences	78%	56%	50%	30%

His sample for each subject is very small, however, and the source of his sample is a tool often used for selection purposes. There is definitely a need for further research on the overlap of specific subject collections in academic research libraries. This study provides valuable information to the growing body of knowledge about collection overlap, particularly overlap of a specific subject collection among academic research libraries supporting advanced study and research in the subject.

THE STUDY

This study investigated overlap among the monographs in the psychology collections and the characteristics of the psychology collections in three academic research libraries. The following questions were examined:

What is the total overlap?

H1: There is no overlap among the psychology collections in research libraries.

Is there a relationship between overlap and the characteristics of the psychology collections (e.g. language, subject, date)?

H2: There is no relationship between title overlap and the characteristics of the individual psychology collections in research libraries.

Psychology collections were chosen to explore the collection overlap and diversity and the characteristics of the collections for several reasons. First, academic research libraries generally have at least basic information or instructional support level collections in psychology, resulting in sizeable psychology monograph collections to study. Second, the psychology conspectus, consisting of only 51 lines (compared to several hundred lines for other subjects), provides a useful and manageable subject breakdown for further analysis of the collection characteristics. Thus, it is physically possible not only to investigate collection overlap and the characteristics of the psychology collections among several research libraries, but also to analyze characteristics of entire psychology collections based on samples from extensive manual files. Therefore, an exploratory study was undertaken using the psychology collections of three academic research libraries which supported doctoral level programs in psychology.

The methodology for this study is based on the analysis by Buckland et al. that the direct statistical approach is the best method to produce unbiased estimates of overlap [4]. Proportionate samples were obtained from each of three research libraries so that overlap between each pair of libraries and overlap among the three libraries could be estimated from the sample. A five percent proportionate random sample of pre-1983 psychology monograph titles was drawn from the BF (or equivalent DDC) portion of the shelf list of each of the three academic research libraries used in the study. Collection samples were limited to monographs published prior to 1983 to improve the probability that the study would in fact reflect collection development in the subject rather than processing speed or procedures. Bibliographic information (title, author, edition, publication date, classification, and language) was recorded for each title.

Coding titles by date of publication, language, and subject enabled a more detailed analysis of the characteristics of the psychology collections in each of the source libraries in the study. Goldstein and Sedransk [5] have described the technique of identifying collection characteristics based on sampling the shelf list within a specific subject. Their sampling technique is useful for the comparative evaluation of holdings in one subject at a number of libraries. The required sample size is determined by

$$n = [z^2 * p(1-p)]/d^2$$

where n equals the sample size

z is the value of the standard normal variate

p is the proportion of titles with the desired characteristic

d equals the margin of error.

Since $p(1-p)$ is largest when $p = 0.5$, using $p = 0.5$ ensures a sample size large enough to achieve the desired probability and margin of error, irrespective of the actual proportion p being estimated. Thus a sample size of 267 is adequate to describe the characteristics of a subject collection within a library. The proportionate sample drawn from the psychology shelf list of each source library did result in more than 267 monograph titles being selected from each library, so there is 95% confidence that the margin of error in the characteristics analyzed is no greater than 0.06 for any of the three libraries.

Study Results. The total sample consisted of 1,243 items:

	Source Libraries			
	A	B	C	Total
N	501	349	393	1243
%	40.3	28.1	31.6	100%

Based on the 5% sample, it is estimated that Library A has approximately 10,020 pre-1983 psychology monograph titles, Library B has 6,980 psychology titles, and Library C has 7,860 psychology titles.

The overlap of holdings for each source library sample by each target library is presented in figure 1. The data in figure 1 is for exact and approximate matches combined. Using the formula given above to determine the confidence interval for the exact match overlap of each source library sample by each target library, the results are:

		Target		
Source	n	A	B	C
A	501	---	41.9-50.7%	39.6-48.2%
B	349	67.5-76.9%	---	47.8-58.2%
C	393	66.8-75.8%	59.7-69.1%	---

The largest collection, A, overlaps more of the items from each of the other two source libraries than do the collections of either of the two smaller target libraries. A has 78% approximate and exact matches with the sample from B's holdings and 76% with the sample from C. B overlaps 52% of the sample from A and 69% from C, while C duplicates 50% of the sample from A and 59% of the sample from B. Likewise, the least amount of duplication is found when the sample from A, the largest source collection, is searched in each of the target libraries with smaller collections. These findings are consistent with earlier overlap studies which have looked at the relationships between overlap and source and target library size. Shaw, for example, found that larger target libraries duplicated more of the holdings of a source library than did smaller target libraries [6].

The first hypothesis was that there is no overlap among the psychology collection in research libraries. Several analyses were performed to investigate further the overlap relationships. The relationships which were explored include the overlap of the total sample by each source library, the overlap of each source library's holdings by each target library, and the number of holding libraries for each source library's sample titles.

The number of holding libraries for each of the items in the total sample is shown in figure 2. Only one library holds 24.6% of the items, while 75.6% were held by two or more, with 50.7% of the items held by all three of the libraries in the study. This overlap of 75.6% is considerably greater than has been found in general studies of overlap. Potter's review of overlap studies indicates that the proportion of unique titles generally ranges from 50% to 86%, and usually falls between 65% and 75% [7], almost three times the percent of unique titles found in this study. The 75.6% overlap of items among these psychology collections is similar, however, to Knightly's findings of 78% duplication among social science materials at doctoral level institutions [8].

Figure 3 shows the percent of items from the total psychology sample from all libraries which is held or not held by each of the target libraries. Library A, the largest psychology collection in the study, clearly overlaps more of the sample items than do the other two collections. B and C have collections of similar size, and overlap about the same amount of the total sample. The chi square test was used to determine if there are significant differences among libraries for the number of sample items held or not held. There are significant differences at the 0.05 level when all three libraries are included, when libraries A and B are compared, and when libraries A and C are compared. The difference is significant because library A, the largest psychology collection among the three, overlaps significantly more items from the total sample (86.2%) than do B (71.0%) or C (68.3%). There is no significant difference between the overlap by libraries B or C, which are similar size collections and which overlap almost the same percentage of titles from the entire sample.

The second hypothesis stated that there is no relationship between title overlap and the characteristics of the individual psychology collections. The distribution of the sample by source library and by general characteristics (language, publication date, and subject) is presented in figures 4 through 6. The percent of monographs in English (figure 4) ranges from 81% to 96.6%, with an overall average of 89.2% English-language materials. This finding is consistent with the amount of English-language material cited in Psychology Abstracts. Louttit found that there was an increasing trend in the proportion of articles in English; whereas in 1894 only 20% of the articles were in English, by 1954 over 80% were in English [9]. The majority of titles have been published since 1940, with 46% published since 1970. Even the largest collection, A, has 44.7% of its monographs published since 1970 (figure 5). This finding is consistent with the general trends in the growth of publishing in recent years (see, for example, information of book title output in the Bowker Annual) [10]. The subject breakdown presented in figure 6 is based on the four major areas of the psychology conspectus. General covers lines 1 through 14 and has 19.5% of the sample; major theories and systems (lines 15 through 19) is 9.6% of the sample; individual psychology (lines 20 through 45) is 49.5% of the sample; special aspects (lines 46 through 51) is 14.9% of the sample. Finally, 6.6% of the titles in the sample are from those sections of the BF classification which are not included in the psychology conspectus such as psychology and life, experimental psychology, and motivation. For each of these characteristics analyzed, there is 95% confidence that the interval is within ± 0.06 of the sample findings.

Figure 7 presents information about the unique items in the sample. Library A, with the largest psychology collection, has 36.5% of its sample titles which are not duplicated by either of the other libraries, and it contributed 60.4% of the total unique items in the sample. Libraries B and C, which are very similar in size, have respectively 17.3% and 15.3% of their sample titles which are not duplicated at the other libraries, and each contributed 19.8% of the total unique titles. It is important to note the contribution that each collection makes to the number of unique titles, and the extent to which each psychology collection would benefit from access to the unique materials in each of the other psychology collections. Library A, for example, gains an additional 24% psychology titles if access is provided to the unique items at B and C, while B would gain 70% and C 62%. A closer look at the characteristics of the unique titles provides an indication of the contributions of these collections.

The distribution of the unique titles by language, date, and subject is presented in figures 8 through 10. It is noteworthy that the unique titles have more non-English materials than the total sample (30% compared to 10.8%), more pre-1940 materials (26.1% compared to 14.7%), and more items in the special aspects section of the conspectus (30.2% compared to 14.9%). Potter [11] and Shaw [12], too, found that unique titles in their studies were likely to be older materials and non-English. The areas of contribution of unique titles by each source library are also evident. Library A is especially strong in non-English language materials; A and C both have strengths in pre-1940 materials; each of the source libraries contributes unique materials in individual psychology, while B and C also contribute in the "other" category (particularly in parapsychology and occult science).

For each of the characteristics of the psychology collection samples (language, date, and subject), the chi square test was used to determine if there are any significant differences between the distribution of the characteristic among the unique and the overlapped titles. There were significant differences at the 0.05 level between the distribution of the characteristic among the unique and overlapped titles from each of the source libraries in every case but one (the date distribution for library B). The unique titles were more likely to be non-English, older, and in the special aspects subject category.

CONCLUSIONS

Based on these findings, the following conclusions are made concerning the overlap in the psychology monograph collections in the three academic research libraries sampled:

> Overlap of the psychology subject collections in the three research libraries is much higher than the general overlap found when entire collections are sampled.
>
> The three research library psychology monograph collections consist of largely recent (post 1940), English-language publications covering the subject areas grouped in the "individual psychology" category of the psychology conspectus.

Unique titles in the three psychology collections tend to be older, foreign language, or special aspects subject materials.

Each of the three collections contributes unique titles to the total sample, and each of the three libraries would benefit from access to the unique items in the other libraries' collections.
The number of unique titles in a source library collection is positively related to the size of the collection.

The size of a target library collection is positively related to the amount it overlaps a source library collection.

This exploratory study indicates that there is considerable overlap in a specific subject among three research collections supporting advanced study and research, in contrast to the findings of overlap studies of entire research collections, which have found much lower overlap rates. Further research is needed on the overlap of specific subject collections in research libraries to determine the extent to which overlap is related to particular subjects and to the level of study available in the corresponding academic programs.

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Figure 1

Exact and Approximate Matches

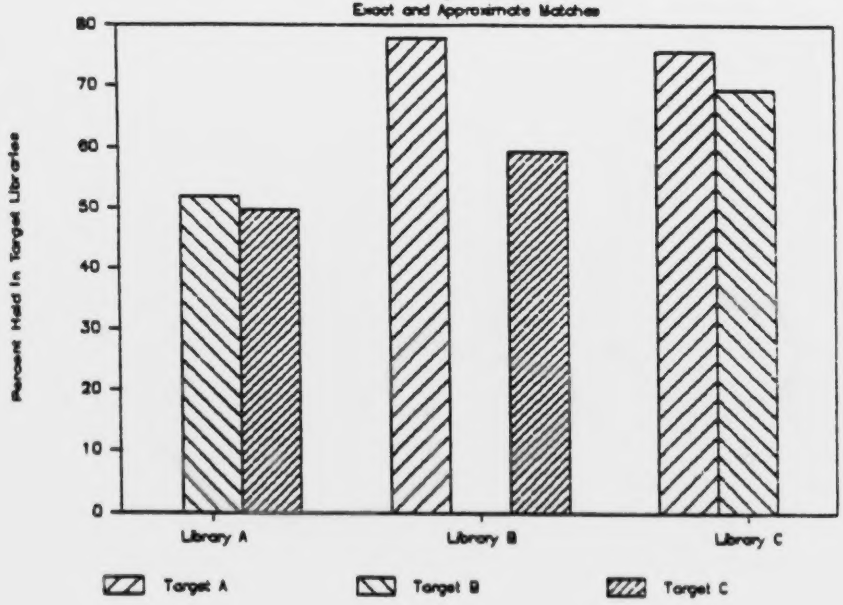


Figure 2

Number of Holding Libraries

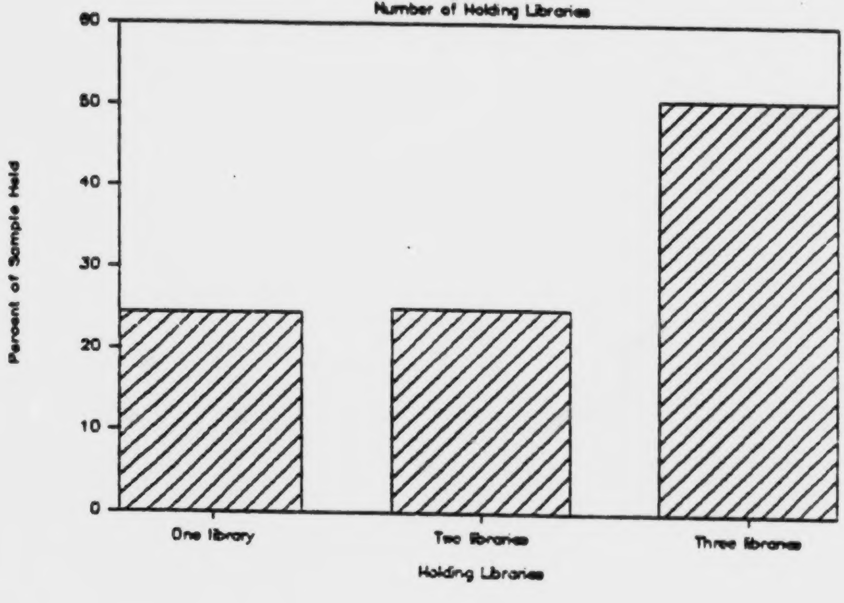


Figure 3

Total Sample Held/Not Held by Library

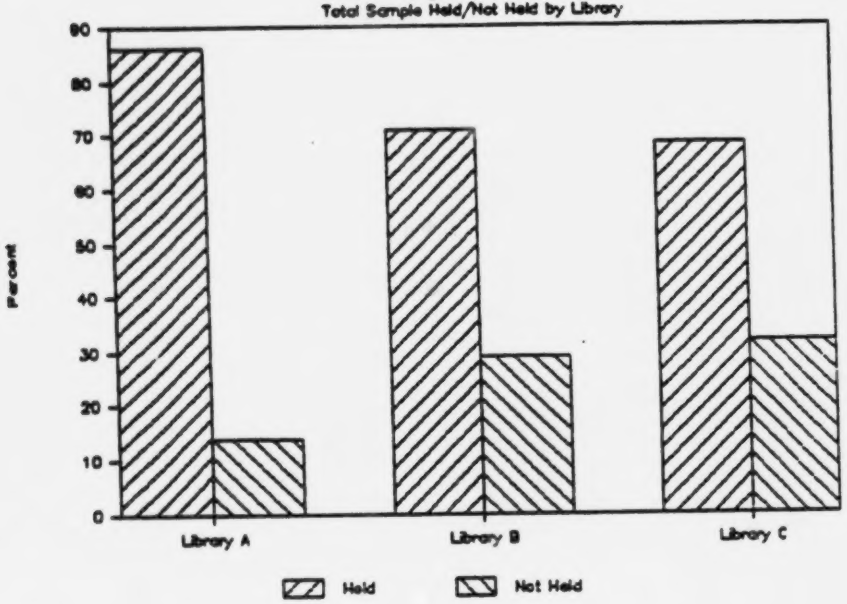


Figure 4

Language Distribution

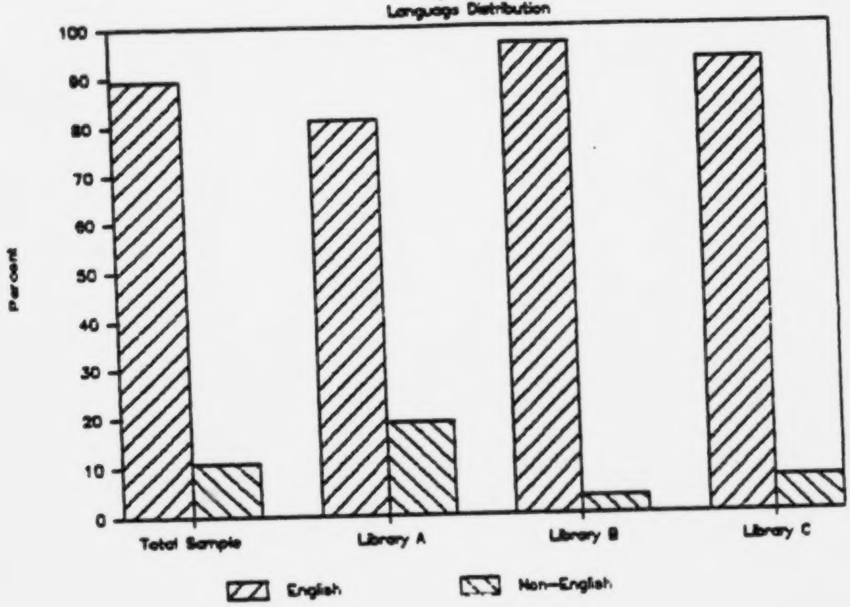


Figure 5

Date Distribution

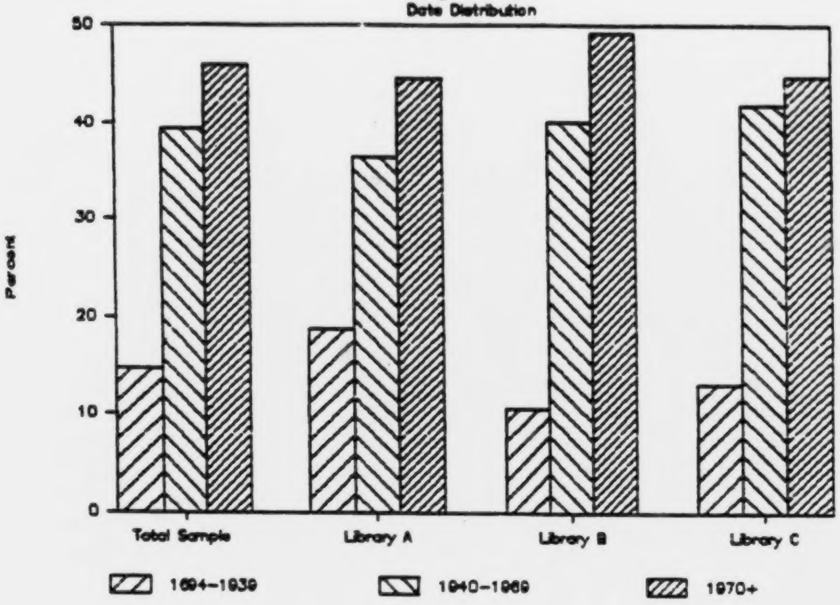


Figure 6

Subject Distribution

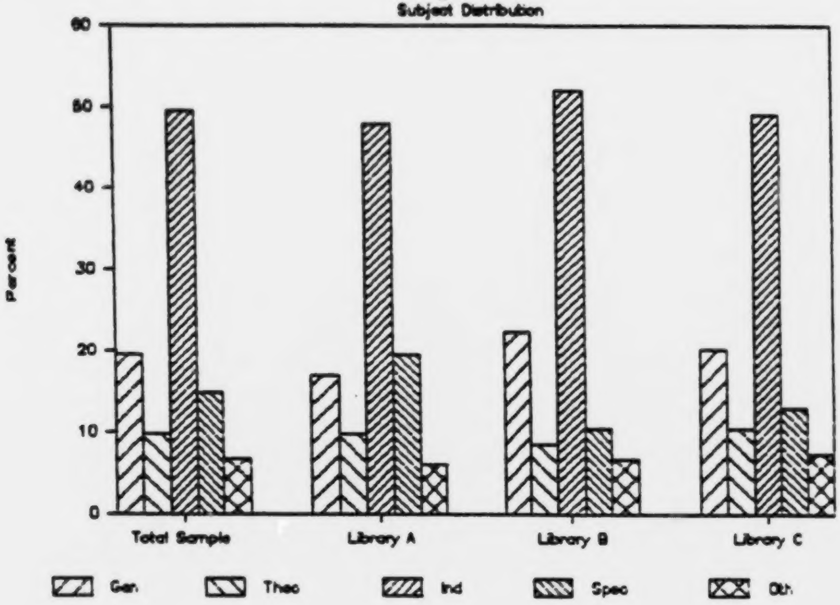


Figure 7

Unique Titles at Source Libraries

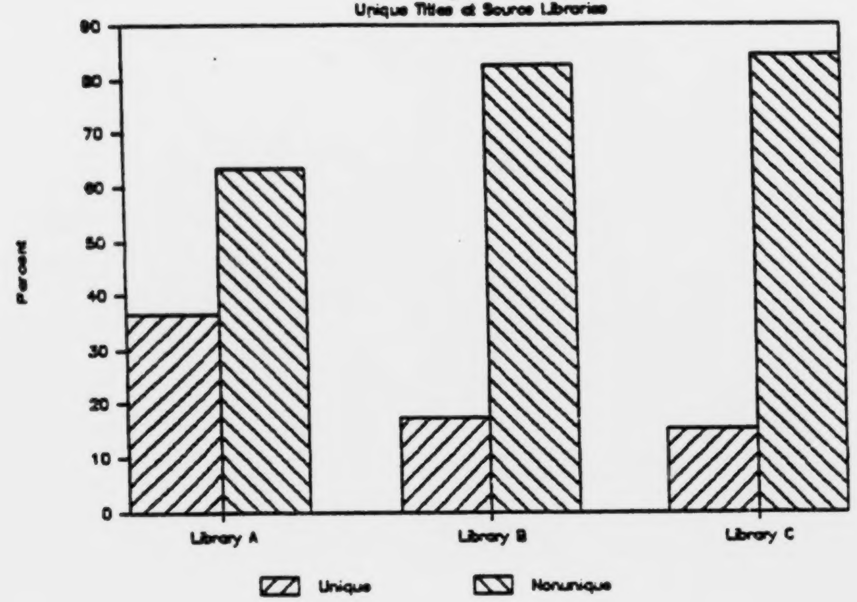


Figure 8

Language Distribution of Unique Titles

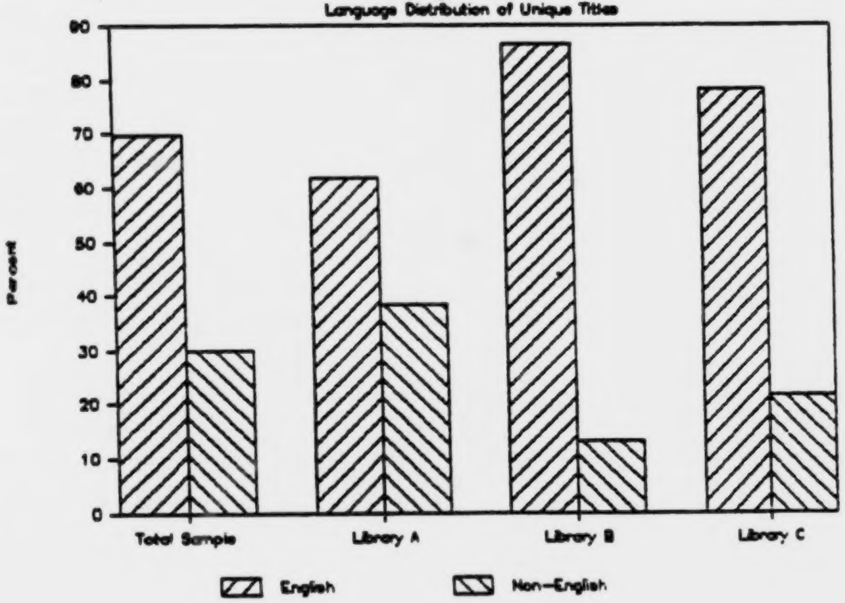


Figure 9

Date Distribution of Unique Titles

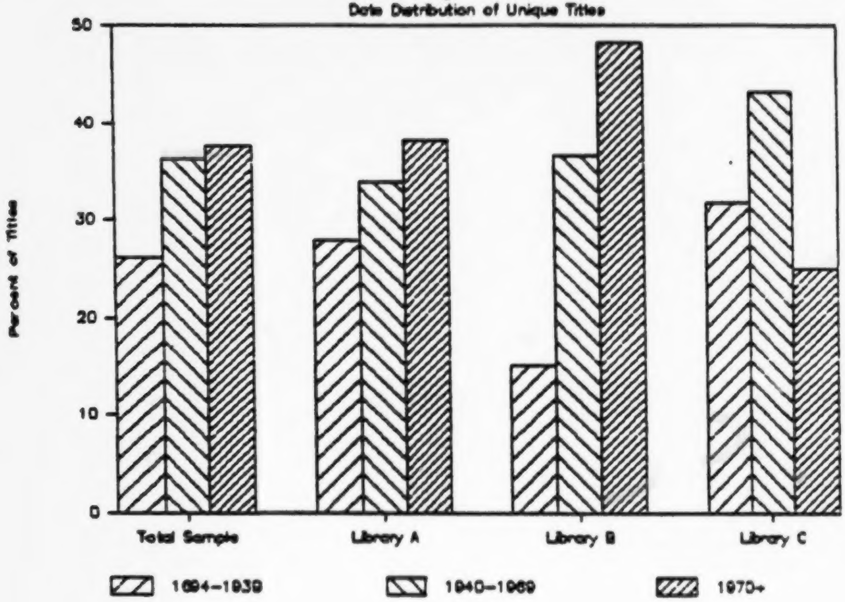
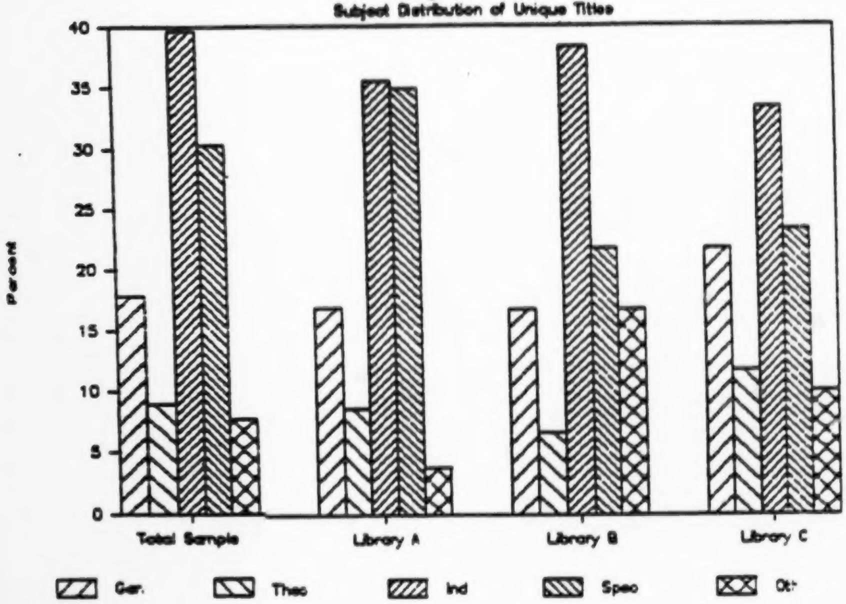


Figure 10

Subject Distribution of Unique Titles



WHERE DOES THE MONEY GO?
MEASURING COST-EFFECTIVENESS
USING A MICROCOMPUTER TO ANALYZE
JOURNAL-USE DATA

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Abstract. A six-month journal-use survey was conducted at the University of Illinois at Urbana-Champaign Chemistry Library to determine the cost-effectiveness of the collection. Use was defined as circulation of bound and unbound periodicals, use within the library determined through reshelving, and use through both interlibrary borrowing and lending; cost was based on 1987/88 subscription prices. Effectiveness was measured by identifying a core journal collection satisfying 90% of total demands. A microcomputer and a spreadsheet program were used to store, manipulate and analyze the data. Results of the study found 24% of the active subscriptions were used two or fewer times, representing 11% of the journals budget. Recommendations are presented to make the UIUC Chemistry Library journal collection more cost-effective.

Keywords and Phrases. Journal use; survey; microcomputer; evaluate; cost-effectiveness.

BACKGROUND OF THE STUDY

Journal literature is vitally important to academic and research chemists. Chemists have the highest journal citation rate in the sciences, 93.6% [1]. In response to that need, over 96% of the materials budget at the University of Illinois at Urbana-Champaign (UIUC) Chemistry Library is devoted to journal subscriptions. As journal prices increase due to inflation, differential pricing, and the fluctuating value of the U.S. dollar, our entire collection is affected.

Ours is not a unique situation. Josef Martin (a pseudonym for an academic administrator who wishes to remain anonymous) describes academic chemists as "the most expensive and insatiable among the expensive and insatiable... Chemists are particularly insatiable over the matter of journal subscriptions: they can't be competitive unless the library subscribes to every journal and has a complete back run of every journal; moreover, the library must be in the chemistry department, or next to it and open 24 hours a day, 365 (or 366) days a year..." [2].

In 1987, as the newly-hired librarian at the UIUC Chemistry Library, I was immediately faced with a large deficit, the need to cancel journal subscriptions, and the needs and expectations of those "expensive and insatiable" chemists. My response: collect data to measure the use of the journal collection.

PREVIOUS STUDIES

Previous journal-use evaluations have been summarized by McCain and Bobick [3] and additional factors required for evaluation appear in Bourne [4]. Two recent studies have focused on the use of microcomputers to analyze journal-use data [5,6] and a study of a Chemistry Library journal collection was included in the use study performed by Kent et al. at the University of Pittsburgh [7].

The Pittsburgh study presents cost and use data. Journal use was measured by observing use and filling out questionnaires following a user interview. Sample time periods were selected to measure journal use in their science and engineering libraries, including Chemistry.

The study showed that in 1977, only 14.5% of the available Chemistry journal titles were used. The unused 85.5% accounted for almost 65% of total expenditures for journals [7]. It is economically unbalanced to allow such a large portion of the journals budget to be spent on unused materials, and we expected to find a similarly unbalanced cost/use ratio at the UIUC Chemistry Library. We were wrong.

MEASURING COST-EFFECTIVENESS

To evaluate the periodical collection, or, to determine its cost-effectiveness, it was necessary to collect two essential sets of data for each subscription: use and cost.

F.W. Lancaster defines cost-effectiveness as "the relationship between level of performance (effectiveness) and the costs involved in achieving this level" [8]. The least expensive way to meet the objective is the most cost-effective. In our survey, effectiveness was defined as a core journal collection satisfying 90% of total demands.

One way to measure the cost of journals is to figure their cost per use. This equation is based on the use a title receives in relation to its cost. Cost per use was calculated for both the Pittsburgh study and the UIUC Chemistry Library survey.

JOURNAL-USE SURVEY METHODOLOGY

We implemented a journal-use survey in January, 1988 to determine, by title, the use of our previously unstudied collection. This allowed us to determine local usage patterns. Other options, such as a citation study, faculty recommendations, or comparisons to the journal lists published in Science Citation Index or Chemical Abstracts Service Source Index were dismissed as not being locally specific enough for our purpose. These alternatives have been compared and evaluated by Rice [9] and are summarized by Line, who states, "...no measure of journal use other than the one derived from a local-use study is of any significant practical value to libraries" [10].

We defined use as: circulation of bound and unbound periodicals, use within the library determined through reshelving, and use through interlibrary lending and borrowing. Tallying each use by title was done throughout each day on a list of Chemistry Library journal titles by student assistants and staff.

The six-month study included a sixteen-week semester, two three-week interim periods and three weeks of an eight-week summer session. This time period was selected to allow for fluctuations in use due to the academic calendar.

The cost for each title was based on 1987/88 subscription prices. No attempt was made to factor in overhead, labor, or binding and storage costs.

The journal-use survey was designed to answer simple questions: which titles are most- and least-used, what percent of the journal budget is devoted to most- and least-used journal titles, and how much use is represented by each of the four use-categories: circulation, in-house use, interlibrary lending and interlibrary borrowing?

CREATING THE JOURNAL DATABASE

To answer our questions, a database of Chemistry Library journal titles and use data was created in-house using a microcomputer and a spreadsheet software program to store, manipulate and analyze the data. As our study progressed, we added fields not just for use and cost, but also for call number, language, CODEN, ISSN, if the journal is a translation, if the title is currently received, and use specified by date of publication and whether bound or unbound. Each title eventually had 19 fields, all capable of being used for evaluation. There are now 918 records in our database and 233,216 bytes of data. This product, our personalized, in-house journals database, has become the most valuable part of our entire study; the applications for its data seem endless, and its value is immeasurable.

As we realized the potential of our database, we also exceeded the limits of our microcomputer; we encountered both a lack of power and a lack of space. We solved these problems by using CODENs for title identification (which use less bytes than an abbreviated title) and by dividing the database in half (A-I, J-Z) for storage and then, as needed, combining fields for the comparison and evaluation of all titles. We also acquired a microcomputer with a hard disk for more memory.

The database, with multiple variables for each title, allows us to creatively manipulate the data beyond our original, simple questions. For example, it is now possible to compare the cost per use of our translation journals by use within the library or by interlibrary lending. Another multi-variable analysis is suggested by Lancaster [11]: measuring cost per use by subject, using call number classifications. This manipulation is possible because call number, use and cost are all variables assigned to each title.

RESULTS

During the six-month study, 31,703 uses were tallied of the journal collection, including 1,445 interlibrary loans, 202 interlibrary borrowings, 28,367 uses within the library and 1,689 uses from local patron circulation. Of the 529 active titles in the survey, 126, or 24% received two or fewer uses during the study period. Active titles receiving no use totaled 9%.

This percentage of unused titles differs from the 1977 University of Pittsburgh Chemistry Library study where 85.5% of the journals were unused, representing 65% of their journals budget.

These differences may be due to the difficult economic climate which separates the two studies. During the past 11 years many academic libraries were forced to cancel journals; since 1977, the UIUC Chemistry Library has cancelled over 50 titles. The sample sizes of the two studies are also dramatically different. Pittsburgh measured 160 journal uses in their Chemistry Library in a sample time period of 39 hours. In our survey, 31,703 uses were tallied in a daily, six-month study.

In 1977, cost per use for the Chemistry Library at Pittsburgh was found to be $2.69. In 1988, the average cost per use for current journals in our study is $3.53. Both these figures are based on subscription prices. While there is no agreed-upon number to define a cost-effective cost per use, the results of the Pittsburgh study measuring cost per use in their science libraries ranged from $2.52 (Life Sciences) to $7.54 (Math). Even given the rising cost of journals and inflation, our cost per use figure falls within this range.

The principal value of cost per use data is to evaluate marginal journals. Those journals with high use and low cost, such as Analytical Chemistry (cost per use = $.05), are obvious winners. Journals with high cost and no use, such as the translation journal Solid Fuel Chemistry (cost per use = $585.00) can be quickly identified for cancellation. Cost per use data allows the marginal titles to be listed from lowest cost per use to highest and evaluated based in comparison to other marginal journals.

Also figured were use and cost by subject classification. Dewey classes were compared to determine how much use each subject class was receiving, and at what cost. For example, Biochemistry titles in our survey have a cost per use of $37.20, compared to a more cost-effective class such as Analytical Chemistry with a cost per use figure of $15.60. This generalization does not compute the number of users in each department, the number of Dewey classes assigned to each subject area, and the average cost of a journal in each field. A more detailed evaluation of use and cost by subject is planned for a future study.

Easily verified from our data is Trueswell's "80/20" rule which states that approximately 20% of a collection accounts for about 80% of the use. Our results found 26% of the active subscriptions accounted for 80% of the use.

Additionally, the results showed that to meet our stated effectiveness level of satisfying 90% of user demands for journals, we must subscribe to 323 of our current 529 journals, representing 61% of the collection and 79% of the journals budget. Is is clearly possible to cancel many of the unused journals, maintain a 90% effectiveness level and take a step toward even greater cost-effectiveness.

SUMMARY

A large volume of data were generated by the journal use study. We have, with the microcomputer and the journal database, the flexibility to evaluate the measurable factors of our journal collection and the capability to produce tailor-made reports, graphs and tables summarizing these data. We now know how to make the collection even more cost-effective; listed below are some of the steps we might take.

- Eliminate all or part of the 9% of the collection that was unused during the study period and relocate the savings to new journals in the high-use subject areas.
- Evaluate the low-use titles on a cost per use basis, again reallocating savings from cancellations.
- Conversely, evaluate high-cost titles by cost per use, again reallocating savings from cancellations.
- Measure the use of the translation journal collection in terms of cost and user group, cancelling locally unused titles.
- Evaluate use by subject classification to determine how each department uses journals in their field, cancelling low-use journals and reallocating funds to high-use subject areas.

Economically, these steps may all eventually have to be taken to meet the budget and reduce an existing deficit. The high-use journals must be kept at any cost.

Philosophically, we will then be stretching the definition of a research library. We can no longer afford to support the broadest definition of the adjective "research." Instead, we must realize that we now more closely resemble a special library responding to the immediate needs of our users in the most cost-effective way.

We will survive this redefinition period. With journal-use data to make informed decisions, we can now, at least, fill the current needs of our users in the most cost-effective way.

ACKNOWLEDGEMENTS

The author thanks Bonnie Maidak for programming and Jennifer Glenn, who assisted with data input.

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ADAPTING AN AS/RS TO THE LIBRARY ENVIRONMENT

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Abstract. After making a decision to install an automated storage and retrieval system (AS/RS), California State University, Northridge finds that adapting it to the library environment requires a number of considerations. These factors include:

- writing a functional description of the system,
- developing bid specifications,
- securing vendor cooperation,
- determining the number of bins needed for storage,
- developing criteria for selecting stored materials, and
- developing and budgeting a maintenance plan.

This information will be of value to any library studying the feasibility of utilizing AS/RS technology.

Keywords and Phrases. Automated Access Facilities; Automation of Library Processes -- Book Storage; Browsing; College and University Libraries -- Space Problems; Obsolescence of Books, Periodicals, etc.

INTRODUCTION & BACKGROUND

In 1983 California State University, Northridge (CSUN) began planning an Automated Storage/Retrieval System (AS/RS) to be included in Phase II of its main library which is scheduled for completion in 1990.[1] The AS/RS is somewhat similar to Randtrievers of the early 1970's, but since being adopted by industry ten years ago, it has undergone technical improvements and proved to be highly reliable. It offers librarians an attractive on site option for high density storage. Materials can be retrieved within five to ten minutes, and its costs are comparable to remote depository storage.[2]

CSUN's forty-foot high AS/RS will have a storage capacity of 140 volumes per square foot and will house 50% to 60% of its collection. Library materials will be stored randomly in bins on the 100 feet long racks arranged on six aisles. An electrically driven forklift like mechanism moving on floor mounted and overhead rails in aisles between the racks will retrieve the bins containing the books and take them to a workstation where a worker will remove the materials requested and deliver them to the library patron.

The AS/RS will interface with an integrated library system (ILS) which includes an automated public access catalog, circulation, acquisitions and serials check-in systems. The patron will determine from an online public access (OLPAC) terminal that the materials needed are located in the AS/RS. Then doing a simple menu prompted routine will activate the AS/RS mechanism which will retrieve the bin containing the book from the storage rack and deliver it to an end-of-aisle workstation. There a worker, prompted by a video display, will remove the book from the bin. The book's bar code inventory number will be scanned to change its status to that of being on-hold to the patron. The book will be placed with other requested books in a small bin on an electric track vehicle (ETV) which will deliver the book with a routing slip to the circulation desk. Then the patron may check-out the book on the online circulation system. The entire transaction will take from five to ten minutes.

When the book is returned, the automated circulation system will identify it as one belonging in the AS/RS and have it sent to the AS/RS work area. The worker will then store the book randomly in a bin from which another book has just been removed, and record its new bin location. Monographs will be stored randomly; bound periodicals and other sets will be assigned a permanent bin location.[3]

Developing the ILS to support the AS/RS facility and interfacing it with the controller requires a series of complex steps and/or decisions to be made. The following overview of this process at CSUN may be of interest to other libraries considering an AS/RS.

AS/RS FUNCTIONAL DESCRIPTION

A functional description of how the AS/RS handles book storage and requests, and interfaces with and is supported by an integrated system must be written.[4] The description should describe the specific functions required to support maintenance of the stored collection and give patrons direct access to materials in the AS/RS. Northridge's description included the following twelve major functions:

- AS/RS Request Function (ILS)
- AS/RS Holdings Display Requirements (ILS)
- AS/RS Request Procedure (ILS)
- Order Filling Procedure (AS/RS)
- AS/RS Request Circulation Procedure (ILS)
- Material Return Procedure (AS/RS)
- ILS Requirements for Transferring Materials to AS/RS (ILS)
- Processes for Transfer of Materials (AS/RS)
- Inventory and Missing Item Processes (AS/RS)
- Reports Requirements (AS/RS)

- Security Capabilities (AS/RS)
- Interface Message Requirements (Both Systems)

To keep costs down and minimize use of unproved software, specifications were designed to maximize use of existing software. The AS/RS was basically assumed to be another online branch or book location of the Integrated Library System (ILS). Some requirements, such as bin location, were best handled by the AS/RS controller. Existing parts inventory software proved adaptable to book storage requirements. Only after careful study of how existing softwares worked and could be utilized were requirements written. The physical interface is simply an RS 232 cable link. The ILS communication protocol was specified because AS/RS controllers typically link to a host and can generally provide compatibility.

SPECIFICATION DEVELOPMENT

Specifications for the AS/RS and the interface between it and the ILS must be written. Consultations involving the project architect, possible AS/RS vendors and key library personnel were held. At this time an AS/RS engineering consultant was retained by the architect. The consultant was given two major responsibilities: First, to review the AS/RS functional description and combine it with a full physical description of the system. Second, to write the bid specifications for the AS/RS. This was done in close consultation with the Architect and Library Project Coordinator. Also at that time a vendor was selected by an RFP process for the ILS. Geac was selected and the Library converted to a Geac online catalog, circulation and acquisitions/serials systems. Geac was awarded a small supplemental contract to develop detailed specifications for the Library System support component of the AS/RS as described in the functional description and presented a proposed specification. Using the bid specification the AS/RS vendor will develop a detailed specification for the AS/RS software. These specifications will be reviewed by the Library and the consultant. Some negotiations between the Library and the two vendors will be required to assure compatible specifications.

VENDOR ASSESSMENT

Vendor cooperation and capability is another item of concern. After agreement on detailed specifications each vendor will have to code, test and debug the new programming required. The interface between the ILS and the AS/RS test computer will require a remote modem. To complete development both vendors must be willing to share proprietary information about their software program with the other vendor on a confidential need-to-have basis. They also need to meet deadlines and stay within budget in their developmental work. All of this will require close monitoring by the Library Project Coordinator. An extensive process of vendor evaluation was conducted by the Library, Architect and AS/RS consultant to assure vendor responsiveness.

STORAGE BIN REQUIREMENTS

The number of bins by size must be accurately determined and specified. The CSUN AS/RS is designed to house 950,000 volumes plus a proportional number of special materials (microforms, phonograph records, archives, curriculum materials, etc.). All bins will be 24" wide and 48" long, but of varying heights and capable of carrying a maximum load of 450 pounds.

To determine the bin height requirements a sample book was measured from each section in the current general collection. A total of 4905 volumes was measured and the average thickness of those falling in each size category was calculated. Table I summarizes the results.

TABLE I

SIZE	SAMPLE#	%BOOKS	THICKNESS AVG.	THICKNESS TOTAL	%LINEAR FT.
Up to 9"Hx6"W	1828	37.27	1.106	2019.975	32.52
9"x6"-10"x8"	1817	37.04	1.341	2435.675	39.21
10"x8"-12"x9"	1132	23.08	1.393	1577.35	25.39
12"x9"-15"x12"	117	02.39	1.405	164.35	02.65
Over 15"Hx12"W	11	00.22	1.282	14.10	00.23
TOTAL	4905	100.00	1.267	6211.50	100.00

A size category of books up to 10"Hx8"W will be stored in three rows per bin. Two more size categories, books 10"Hx8"W to 12"Hx9"W and books 12"Hx9"W to 15"Hx12"W, will be stored in two rows per bin. The small number of books over 15"Hx12"W (.22%) will not be stored. To compensate for the fact that average thickness varies by size, bin numbers are calculated by the percentage of linear feet. Finally other formats of materials must be measured and bin needs calculated. After considering all the factors the AS/RS bin requirements were calculated as shown in Table II.

TABLE II

Bin Size	No. Req'd
24" W X 48" L X 6.0" D	390
24" W X 48" L X 10.0" D	7020
24" W X 48" L X 12.0" D	5070
24" W X 48" L X 15.0" D	390
24" W X 48" L X 18.0" D	390
Total Number of Bins	13260

STORAGE POLICY

A policy for selection of materials to be stored and a clear understanding of the implications of that policy must be developed. The primary criteria for selection candidates for storage will be low use. This will allow books and periodicals with moderate to heavy use to be readily available in the open stacks and minimize the use of the AS/RS. Less demand for items in the AS/RS will result in faster AS/RS retrieval times.

Initially books that have not been acquired or circulated for the three years previous to implementation of the AS/RS will be stored in the facility. If any of the stored items receive heavy use (three times or more in one year), they will be moved to the open shelves. In succeeding years as the collection grows and requires that more of it be stored, the circulation/acquisition period will be shortened.

Except for a basic 100 titles, all bound periodicals issued before 1975 will be stored in the AS/RS. All holdings of the general and the more popular periodicals will remain on the open shelves. Every five years (in 1980, 1985, 1990, etc.) another five years of periodicals will be assigned to the AS/RS. These initial criteria will allow for about half (500,000 volumes) of the collection to be shelved in the open stacks and the other half in the AS/RS.

Based on a sample of the CSUN collection conducted in 1987 a three year cut-off would store 50% of the circulating collection in the AS/RS which would receive 13% of the total circulation. A two year cut-off would store 59% of the books and would account for about 17% of total circulation. The use of acquisition or last activity date was determined to be an effective criteria by this sample. For periodicals a number of detailed use studies were conducted and it was determined that if 100 high use periodicals' backfiles were left in the stacks and all other periodicals over 15 years old were put in the AS/RS, 50% could be stored and only 7% would be requested out of the AS/RS. Based on these studies a policy statement was developed in close consultation with the Library Committee and was approved by the CSUN Faculty Senate. Thus the Library has a practical AS/RS storage policy with known implications and campus approval in place well in advance of when it will be needed.

AS/RS LOADING PLAN

Loading materials into the AS/RS must be planned and scheduled. Upon completion of the AS/RS approximately 500,000 books and periodicals will be transferred to it from the open stacks. The books will be pulled from the stacks using call number order reports generated by the ILS using last activity date criteria. A brief record will be tape-loaded into the AS/RS controller for each book. Before being placed in bins, the books will be scanned at the area workstation to establish bin location and transfer the book location in the ILS to the AS/RS. The procedure is simple, but because the open stack capacity is being reduced, all 500,000 must be loaded before the library can complete its move. It is anticipated that the load will take 5 months, working seven days a week, two shifts per day. If correct procedures are followed, books should remain accessible most of the time the move is being executed.

MAINTENANCE & PERSONNEL

Maintenance and personnel requirements of the AS/RS should be planned out and budgeted. The correct operation of the system and a fully implemented maintenance plan are essential to the success of the AS/RS. Visits to AS/RS installations and vendor surveys have revealed considerable maintenance requirements. Maintenance contracts are required for the mini-load cranes, the AS/RS controller computer, the software and the material delivery system. A full time technician is also necessary. The total projected cost of maintenance for the CSUN system is about $135,000 annually. Though the cost seems high, it is actually far less than the cost of custodial service and utilities for a conventional library of comparable capacity. Using standard CSU formulas a comparable library with open stacks would cost about $401,000 a year to maintain, or $266,000 more than an AS/RS. Comparisons thus far indicate that the personnel needed to fill requests and maintain books in the AS/RS is about equal to that required for open stack maintenance.

CONCLUSION

Installing an AS/RS, as with the implementation of any automated system, takes a tremendous amount of planning, coordination and consultation. There is a whole host of conditions, possibilities and cost trade-offs to be considered. The project will take a lot of time and dedication and expertise to successfully implement, but in the long run it appears to be the solution to our continually growing collections and escalating building costs, and will buy time to assess the practicality of 21st Century library storage solutions.

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EVALUATING JOURNALS: CAN FACULTY DO THE JOB?

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Abstract. This study examines the relationship between faculty evaluation of life science journals and charged circulation of the journals. The evidence presented indicates that the relationship is not a strong one and that faculty evaluations are not reliable predictors of circulation of moderate- and low-use journals.

Keywords and Phrases. Collection development, faculty evaluations, journal use, circulation, and usage study.

In a period of rising serial prices, devalued dollars, and reduced budgets, it is essential for libraries to monitor the use of available resources. This is particularly true for the acquisition of journals, which requires large, continuing commitments of funds. Techniques for meaningful evaluation of journal collections are increasingly in demand. One of the traditionally honored techniques is faculty input to evaluate journals. While bibliographers seek faculty input in the collection evaluation and development process, the nature and utility of faculty input has not been closely examined.

Over the past two years the Life Science Library has built a database containing circulation, price, Science Citation Impact Factor, and publisher for over 1,000 life science journals. Circulation is charged use (local and ILL) as recorded on the date due slip in each volume. Although our circulation is now automated, online circulation records would only have provided data back to 1983, so charged use was determined by visual inspection. Charged use is assumed to provide a relative indicator of total use; this assumption is difficult to document since most of the use studies reported in the literature deal with uncharged use or exclude serials[1].

In May 1988 we began to add faculty evaluations to the database. This provided an opportunity to explore the relationship between faculty evaluations and circulation. Faculty evaluations may be thought of as theorized use, while circulation is demonstrated use. The assumption implicit in using faculty evaluations for collection development decisions is that there is a strong relationship between this theorized or anticipated use and circulation.

METHODS

Faculty members were asked to evaluate titles in their own broad subject area. Titles were selected from the database maintained on PC-File by a root word search. Participating faculty were selected on the basis of demonstrated interest in the library, willingness to invest time in the evaluation process, and reasonableness. Only faculty members who are reasonable in their expectations of the library and capable of being critical of their own literature were asked to be evaluators. Evaluators who judged every journal essential or who failed to consider the broader view beyond their own immediate needs would not contribute positively to the project. Each was provided with current issues of the journals to examine as he or she completed the evaluations. The faculty member was asked to give a qualitative evaluation of each title, representing not only his or her personal interests but the interests of all UT faculty members in their general research area. Rather than being provided with a Likert scale, they were allowed to give their comments in any format they preferred. Some assigned numerical rankings (e.g., 1–high value, 2–moderate value, 3–low value), some absolute rankings of the titles being evaluated, some brief comments, and some lengthy comments. The participating faculty were comfortable with this less structured approach, and many valuable comments would have been missed with a Likert-scale instrument.

At this time 10 faculty members have provided evaluations in 11 broad subject areas: genetics, microbiology, cellular and molecular biology, immunology, neuroscience, evolution, ecology, environment, behavior, pharmacology/toxicology, and botany. Additional evaluations were used from six faculty members in one department who indicated on a list of titles those they considered high priority to keep in the collection. A total of 653 evaluations on 449 titles were used in this study. Seventeen titles that were represented by less than three years bound on the shelf were not included in the study since there was not adequate circulation information.

The circulation information was used to calculate the circulation ratio (uses/year). After considerable review of levels of use in this collection and of other factors including what has been cancelled or considered for cancellation since 1986, a use rating scale was established as follows:

Circulation Ratio	Use Rating	Number of Titles
0	Zero	82
0.01 – 0.39	Low	99
0.40 – 1.99	Moderate	174
≥ 2.0	High	94

An additional group of titles is hypothesized which would be very high use; however, most titles which would fall in this category were not evaluated because there was not a root word in the title on which it would be selected. These are titles such as Nature, Science, Proceedings of the National Academy of Sciences, etc., which would not be in question as to their level of use.

After the use rating was established for each title, the faculty evaluations were rated good, fair or poor according to how well the comment corresponded to the circulation ratio. This process was surprisingly clear and unambiguous and avoided the subjective biases for favorite journals or evaluations by favorite faculty members.

The individual faculty comments were input from the evaluation sheets to a new field in the database. A printout of titles with evaluations was made and the circulation ratio and use rating were added. This provided a worksheet on which the evaluations themselves were rated.

EXAMPLE:

Acta Virologica	Circulation Ratio: 0.28	Use Rating: Low

Faculty Evaluation: *Very Low Value*

This evaluation would be rated good; the comment corresponds well with demonstrated use.

Human Immunology	Circulation Ratio: 0.0	Use Rating: Zero

Faculty Evaluation: *Important to Keep*

This evaluation would be rated poor; the comment does not correspond with demonstrated use.

Journal of Ecology	Circulation Ratio: 4.83	Use Rating: High

Faculty Evaluation: *Very High Quality;*

This evaluation would be rated good; high correspondence with demonstrated use.

Human Immunology	Circulation Ratio: 2.6	Use Rating: High

Faculty Evaluation: *General Impact Medium, High Impact in Field, None at UT in Field*

This evaluation would be rated fair; some correspondence with demonstrated use.

It is important to note that these ratings apply to the level of correspondence between the circulation ratio and evaluative comments. They rate the usefulness of the faculty evaluations as predictors of a journal's overall circulation in the university community. Neither the evaluations nor the journals themselves were being rated as good, fair, or poor. The faculty member may have been correct in his assessment of the journal but for some reason circulation in the Life Science Library did not correspond to his assessment of the title.

RESULTS

Compared to the process of building the database and the surprisingly time-consuming process of getting the evaluations, compiling the results was a simple task. Counts were taken of the total number of titles, the number of titles with each use rating, the total number of evaluations, and the number of evaluations rated good, fair, and poor.

Of 653 faculty evaluation, 272 (42 percent) were rated as good predictors, 199 (30 percent) were rated as fair predictors, and 182 (28 percent) were rated as poor predictors. While 42 percent good predictions might seem to indicate some degree of utility of faculty evaluations, over half were only fair or poor as predictors of demonstrated use.

Examining high-, moderate-, and low/zero-use titles as separate groups provides a different perspective on the quality of the evaluative comments.

For 95 high-use titles with 144 faculty evaluations:

127 (88 percent) faculty comments rated as good predictors

9 (6 percent) faculty comments rated as fair predictors
8 (5 percent) faculty comments rated as poor predictors

For 152 moderate-use titles with 249 faculty evaluations:

65 (26 percent) faculty comments rated as good predictors
167 (67 percent) faculty comments rated as fair predictors
18 (7 percent) faculty comments rated as poor predictors

For 179 low/zero-use titles:

80 (30 percent) faculty comments rated as good predictors
23 (9 percent) faculty comments rated as fair predictors
156 (60 percent) faculty comments rated as poor predictors

CONCLUSIONS

Faculty comments overall are more often only fair to poor predictors of demonstrated use. In a context where use is a prerequisite to retaining a title in the collection, it is difficult to justify heavy reliance on faculty evaluations when making journal cancellation decisions. The implications of the second analysis grouping titles by use rating are even stronger. Apparently faculty are very good at predicting use on high-use titles. However, they are poorest at predicting use on low/zero-use titles. This means that their evaluations will not be helpful for librarians examining titles for possible deselection since low-use titles will usually be considered first for cancellation. It is easy to recognize high-use titles and assign them a secure place in the collection. It is more difficult to evaluate moderate- and zero/low-use titles. It is with the latter that assistance is most needed in assigning priorities, yet this is where faculty evaluations are least accurate as predictors of use.

This conclusion should not be taken to mean that librarians should not seek faculty input in collection development decisions. It is intended to provide better grounds on which to seek and use that input.

Librarians should continue to seek faculty input on journal cancellations for a number of reasons. Faculty can provide general background, which helps the librarian judge the significance of materials in the collection. They are also the best resource for information on research/curriculum developments and changes in academic programs. The PR value of consulting faculty on collection development is considerable, for everyone likes to be consulted even when his or her opinion is not crucial to the decision.

In the process of gathering faculty evaluations one last reason for consulting faculty was discovered. Their comments and the insights to be gained from them are invaluable, not to mention entertaining. Among particularly enjoyable faculty comments from this project were:

> "this is where I would publish a paper if I didn't want to argue about it"
>
> "if [journal] rejects it you publish it here, I'm an editor"
>
> "Mostly, this is a forum for the editor to publish his own papers"
>
> "the cost is an outrage. However, the journal gets wide use"
>
> "you should just cancel all the [publisher] titles"

Rather than relying on faculty evaluations as a license to proceed with cancellations as they recommend, the librarian should balance faculty recommendations with use studies, professional judgement, and knowledge about the collection and the information demands of the users. It is also the librarian's role to provide for the long-term development of a properly balanced collection. Faculty understandably are more concerned with their own immediate information needs.

Having examined the nature of faculty evaluations on a sizeable group of life science journals, I am more confident in my role as bibliographer. This study effectively establishes for me the appropriate role of faculty input in collection development decisions: when and in what form to solicit their input; how to interpret it; and how to apply it. Faculty along cannot handle the task of evaluating journals. With faculty assistance, librarians are better prepared to handle this difficult professional task.

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LIBERAL ARTS COLLEGE LIBRARY ACQUISITIONS: ARE PAST PRACTICES APPROPRIATE FOR THE FUTURE?

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Abstract. Because of budgets and collection size, acquisitions practices in smaller liberal arts college libraries should be directed toward items which are used rather than items for future research needs. Literature on use studies is examined to differentiate between the needs of research libraries and libraries serving largely undergraduate students. With circulation as a measure of use, this study examines items acquired at Skidmore College during the 1983-84 fiscal year to determine the point of initial use and frequency of circulation. Questions are raised about the appropriateness of continuing past acquisitions practices.

Keywords and Phrases. Liberal arts colleges/acquisitions/collection development/use studies/circulation of materials.

THE PROBLEM

Libraries in the smaller academic institutions are not immune from the problems which beset the larger research institutions during the late 1980's. Our budgets seem inadequate to the task of acquiring the materials which the faculties of our institutions feel are minimal for curricular support. Our buildings seem inadequate to the task of housing those materials which we CAN acquire. It is an interesting, and sometimes belt-tightening, period.

A question which may flit across the consciousness of librarians in the smaller academic institutions at such times is "Who's using all these materials we are buying and cramming into our libraries?" Who, indeed? Unlike the large research libraries which purchase a wide range of library materials for posterity, libraries in the smaller academic institutions have to be much more selective in their acquisitions. For these smaller libraries the use of the materials acquired should be a primary measure of the success of an acquisitions program. It would seem reasonable to assume that such smaller collections, built at a slower rate, would be more closely related to the curriculum and, therefore, more frequently used. Like many assumptions, this one bears closer examination.

The use of the materials acquired by a library is more or less understood, else why should such materials be purchased. In the case of the large research library, such use may come at some distance in time from the point of purchase. Nearly a decade ago, in the mid-to-late 1970's, a study of the use of books added to the Hillman Collection of the University of Pittsburgh generated a measure of controversy.[1] One of the major findings of this study, that forty per cent of the books added to the collection in 1969 had not circulated during their first seven years of shelf life, generated a certain amount of heat and light in the literature.[2] It was observed at the time that circulation studies reflect better the use of libraries by undergraduates and beginning graduate students than the research use of research libraries.[3]

For librarians in the smaller academic libraries, the message should have been clear. It IS possible to measure use through circulation studies if one's clientele is largely undergraduate or beginning graduate students. Indeed, as Magrill noted in an address given in 1979, the methodology of the Pittsburgh study was described in some detail in the final report, permitting anyone to replicate a part of it, even on a small scale.[4] And, if one can argue that acquisitions in a smaller academic library should be fairly directly related to the use of the materials, one can also obtain a rough measure of the success of the acquisitions program. There has not been a rush to discuss such studies in the literature, of course. It is somewhat risky to advertise the fact that materials purchased in good faith and placed on shelves in an academic library are not being used. One study in a small institution which replicated the methodology used at Pittsburgh was that accomplished by Hardesty on the use of the collections at DePauw University.[5] He found that some forty-four per cent of the books in the study sample did not circulate during the first three years of shelf life and thirty-seven per cent did not circulate during the entire five-year period which the study encompassed. A similar study using the same methodology was done at Juniata College in 1980; that study found that over forty-two per cent of the books in the sample did not circulate in the first three years of shelf life.[6] The patterns for those two smaller academic institutions are remarkably similar to the patterns found at Pittsburgh.

As an aside, the word "use"might be placed in question here. It is entirely possible to use a book without circulating it, especially in open-stack libraries.[7] Nonetheless, if one restricts consideration to books in the circulating collection, most "uses" will involve the circulation of the item. For the purposes of this paper, the operational definition of "use" is an out-of-building circulation.

The basic purpose of this paper is to report on a study which examined yet another such group of acquisitions in detail. The hypothesis of the study is that a substantial portion of the books acquired for the circulating collection at the Skidmore College Library does not circulate. The study is not exhaustive, being limited to one year's acquisitions, but it does add more data to the slowly growing accumulation. The questions raised by the study are worth asking.

THE INSTITUTION

Skidmore College is a residential liberal arts institution located in Saragota Springs, New York, with an enrollment of approximately 2100 students. Founded in the early years of this century, it has developed a reputation for strengths in the fine arts. Scribner Library, the only library facility on the campus, held 320,000 volumes at the start of the 1983-84 fiscal year. Although Saratoga Springs is only thirty miles from Albany, and from a variety of academic libraries, the residential nature of the college makes the college library the primary source of information. At Skidmore, as at many other small academic institutions, many of the requests for library acquisitions originate with the teaching faculty. Unfortunately no indication of the source of requests is retained in the files or in the books in a way that permits easy examination and any sort of resulting comparison of the circulation patterns. Out-of-library circulation for the years 1983-84 through 1986-87 ranged from 30,910 to 48,072; the rather large difference can be explained partially by a change in the circulation period from four weeks to an entire term during the three-year period under examination. There is no indication that Skidmore is substantially different from many other residential institutions of similar size.

METHODOLOGY

As the purpose of the study was to measure the use of some portion of the circulating collection over a period of time, the choices were limited. The decisions to be made were limited to which group of books and how long a period of circulation. A period of three full years of circulation data was chosen arbitrarily as sufficient to yield the information sought; the group of books chosen was the most recent which permitted a full three-year examination. Accordingly the books acquired during the twelve-month period from July, 1983, through June, 1984, were chosen for examination.

Quarterly acquisitions lists were used to identify the books acquired during this twelve-month period. Because the primary interest was in use as measured by circulation, all the non-circulating items such as reference books were removed. A random sample of approximately ten per cent of the remaining 5409 titles on the list was drawn using a computer-generated random number table. As the acquisitions lists reflected titles rather than the individual volumes for which circulation data were desired, the number of items in the sample rose because of multi-volume sets until it reached 584 or 10.8 per cent of the acquired items. This sample size was reliable within a five per cent error range.[8]

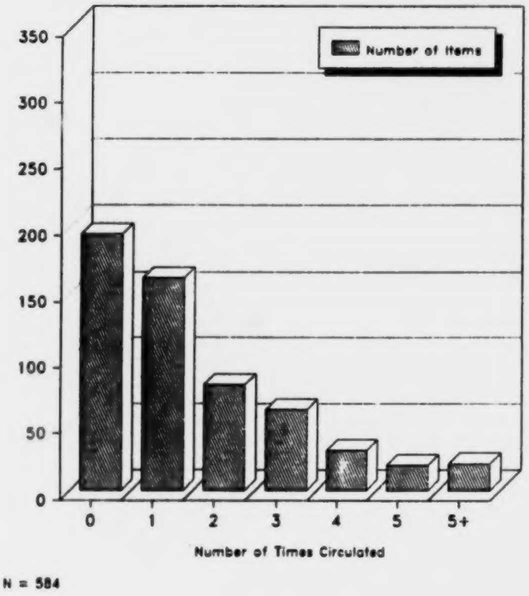
TABLE 1

FREQUENCY OF CIRCULATION

Number of Uses	Number of Items	Percentage of Sample
Not Circulated	194	33.2%
One	161	27.6%
Two	80	13.7%
Three	61	10.4%
Four	30	5.1%
Five	19	3.3%
Six or more	20	3.4%
Missing	19	3.3%

N = 584

FIGURE 1
Frequency of Circulation for
1983-84 Acquisitions



Each item in the sample was examined to determine frequency of circulation and date of initial circulation. The dates of initial circulation were grouped into six-month intervals dating from the end of each quarterly acquisitions list. It is, therefore, possible for an item which shows an initial circulation date within the first six-month period actually to have circulated anywhere up to nine months after its appearance in the library. More precise measurement is not possible with the data available.

If an item was not found in the initial search, it was rechecked twice at one-month intervals before being considered missing; this period allowed for reshelving of items which might be in transition from circulation to the shelves and for normal shelf-reading to locate misplaced items. The data gathered do not reflect use while on closed reserve, as those records are returned normally to the faculty for whose course the item was requested; in such cases, and there are fewer than a dozen in the sample, placement of a book on closed reserve constituted one circulation or "use". Because the circulation policy at Scribner Library changed during the period for which the sample was examined from four weeks to a full term, the number of renewals was noticeably different; to compensate for this, renewals were not counted as additional uses. No attempt was made to determine in-building use.

FINDINGS

The frequency of circulation for the sample is shown in Table 1. The discovery that approximately one-third of the items in the sample had not circulated during the first three years of shelf life was somewhat disconcerting, even in light of the findings at DePauw and Juniata. If one projects the percentage of items not circulated onto the total acquisitions of 5409 titles, allowing for the possibility of a five per cent error, one finds that as many as 1800 books purchased during the 1983-84 fiscal year did not circulate over the first three years of shelf life; the hardcover average per-volume prices for 1983 and 1984 place the cost of this unused portion of one year's collection at nearly \$50,000.00, not a small sum for a liberal arts college library.[9] The percentage of items circulating tailed off in a direct relation to the frequency of circulation. The portion of the sample finally labelled missing seemed within acceptable limits; because of a manual circulation system, no check was possible on the circulation pattern of these missing items beyond the observation that they had indeed circulated at least once. Figure 1 illustrates the frequency of circulation through the first three years of shelf life.

One point of interest not addressed in these data is the frequency of use by other institutions through inter-library loan. Twenty-seven volumes in the sample accounted for thirty-one inter-library loan requests. These requests seemed not to be concentrated in any one subject area, although Skidmore's participation as the art/art history resource in an area cooperative acquisitions program might lead one to expect otherwise. For nine of these volumes, inter-library loan constituted the only use of the item.

Table 2 shows the point of initial use for the items in the sample. The data are grouped in six-month intervals which begin with the first month following the date of the quarterly list. The data here resemble those of the Pittsburgh Study and other examinations of use in that the largest number of items, over forty per cent, circulated initially during the first six-month period. The other volumes circulated initially in gradually decreasing quantities over the remaining portion of the three-year study period. One must remember that the missing volumes probably circulated at some point in time during the three-year study period--especially if the theft of a book could be construed as a "use"--but the manual circulation system prevented an accurate determination of the precise dates. Although the study period was limited to three years, volumes in the sample continued to circulate initially beyond the period. Nineteen volumes, approximately 3.3 per cent of the sample, circulated initially in the twilight zone after the thirty-six month period following the date on the acquisitions list; those nineteen volumes show as never having circulated in the study. Figure 2 provides a graphic representation of the period of initial use for items in the sample.

The method of examination of individual volumes in this study also permitted a fairly detailed examination of use by the Library of Congress class numbers. Such data, presented in Table 3, give a more precise view of the shape of acquisitions for the sample. For the purposes of simplicity, all uses beyond the first six-month period have been grouped under the heading "Other Use". When examining these data, one should remember that the figures do not represent expenditure levels; books acquired for art, in class N, are normally much more expensive than those acquired in literature and criticism, in class P. And, speaking of expenditures, these figures do not differentiate between gifts and purchases; because not every gift book receives a book plate or other indication that it was given to the library, comparative data on gifts and purchases were not available. The figures are for items within the sample, which is accurate to a level of five per cent with the sample size chosen. Figure 3 provides a graphic representation of

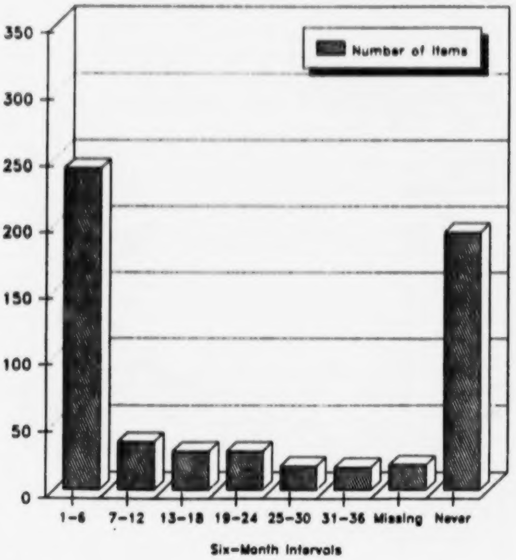
TABLE 2

PERIOD OF INITIAL USE

Period of Initial Circulation in Six-Month Intervals	Number of Items	Percentage of Sample	Cumulative Percentage
Never Circulated	194	33.2%	
1 - 6 Months	242	41.4%	41.4%
7 - 12 Months	36	6.1%	47.5%
13 - 18 Months	29	5.0%	52.5%
19 - 24 Months	29	5.0%	57.5%
25 - 30 Months	18	3.1%	60.6%
31 - 36 Months	17	2.9%	63.5%
Missing	19	3.3%	

N = 584

FIGURE 2
Period of Initial Use for
1983-84 Acquisitions



N = 584

the shape of the sample by LC Class and the circulation of that sample.

CONCLUSIONS

The findings in this study reinforce the idea that a substantial portion of the books acquired for the circulating collection in a smaller academic library does not circulate. While one might properly argue that circulation is not the only form of possible use for such items, a number of studies have indicated a close relationship between in-building and circulation uses.[10] The inescapable conclusion is that Skidmore College, and probably many other smaller academic institutions as well if DePauw and Juniata are any indication, are acquiring, processing, and storing large quantities of books which are not being used in any meaningful way. Can such institutions afford to continue these acquisitions practices of long standing?

While the question is easy to phrase, the answers come less easily. The acquisition of library materials is a complicated process made more so by conflicting demands for quantity from the faculty and restraint from the administration. Such libraries can ill afford to emulate large research libraries by acquiring items which sit idle on the shelves. The need for larger buildings to house larger unused collections seems a bit absurd if one examines it closely.

And yet, what is the solution? The theme of this conference, "Building on the First Century," presents only part of the situation. It is easy to look backward, to discover items which perhaps were ill-chosen acquisitions if use becomes a criterion. It is quite another matter to look ahead, predicting use patterns for current and future acquisitions. While no ready-made answer is apparent, some possibilities exist.

One such possibility for increasing the patterns of use of acquired materials is to tie the acquisitions process more closely to the curriculum. Requiring that a specific course be designated on every book order will not assure that every item will be used, but it will slow the growth of portions of the collection outside the scope of the curriculum. Unfortunately, this course does not address the problem of support for faculty research and, in institutions where the faculty make a substantial number of book requests, may lead to strained relations between the teaching faculty and the library.

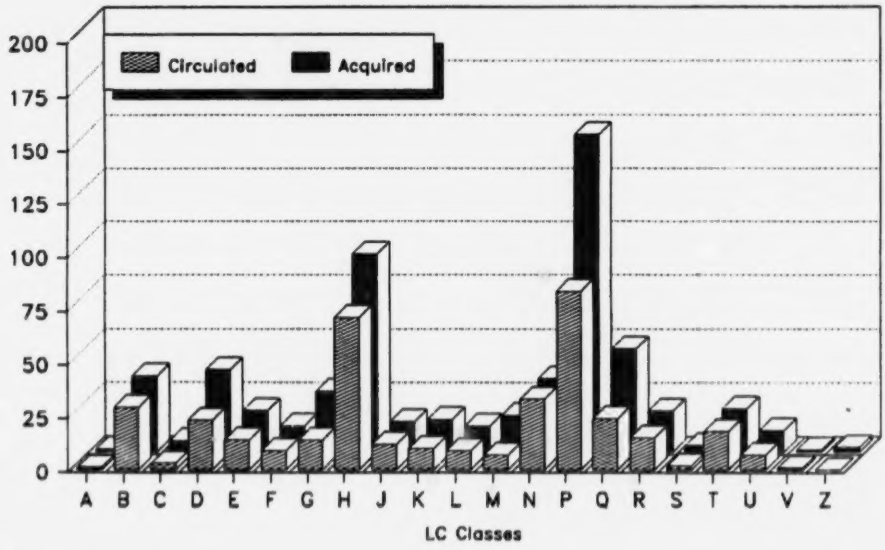
TABLE 3

USE OF 1983-84 ACQUISITIONS BY LC CLASS

Class	Total Items	Percentage of Sample	Not Circulated	First Six Months	Other Use
A	1	0.2%	0	1	0
B	35	6.0%	6	6	23
C	5	0.8%	2	1	2
D	38	6.5%	12	8	15
E	19	3.3%	5	5	9
F	12	2.1%	3	3	6
G	28	4.8%	14	9	5
H	92	15.7%	21	41	30
J	14	2.4%	2	4	8
K	15	2.6%	5	4	6
L	12	2.1%	3	4	5
M	17	2.9%	10	2	5
N	45	7.7%	12	8	25
P	148	25.3%	65	41	42
Q	48	8.2%	24	10	14
R	19	3.3%	2	4	11
S	3	0.5%	1	0	2
T	20	3.4%	2	6	12
U	10	1.7%	3	4	3
V	1	0.2%	0	0	1
Z	2	0.3%	2	0	0

N = 584

FIGURE 3
Use by LC Class for
1983–84 Acquisitions



N = 584

To help solve an ancillary problem, the space crunch which accompanies the burgeoning growth of collections in liberal arts college libraries, the practice of weeding might be expanded. Although it is never easy to dispose of volumes only four or five years old which appear to be in pristine condition, a rigorous weeding program will serve to rid the collections of items not being used. One should tread lightly in weeding programs, however. College administrators might find it hard to understand why spending money to identify and dispose of non-used items for which money was spent in acquisitions only a few years earlier is preferable to spending money to build a larger library in which to house these non-used items.

The ideal solution, of course, is to purchase only those books which will be used. The impracticality of that option is obvious to anyone who has ever worked in a library. Anyone who has a workable program along these lines is urged to step forward and share it with the profession at large.

But the fact that a solution will be difficult to achieve should not stop the search for one. The present practices of acquiring library materials for the smaller academic library are both haphazard and expensive. If we are to build on the first century, we need to recognize its problems as well as its successes. We need to strive for better methods of choosing books for our libraries. We need to shape our libraries to fit the special needs of our institutions.

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CASSI AND COLLECTION ASSESSMENT: NEW USES FOR AN OLD TOOL

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Abstract. The General Libraries of The University of Texas at Austin underwent a 10 percent cancellation in serial titles in late 1986. Because of the cancellation, there was concern that the serials collection of the Chemistry Library had been cut to a bare bones collection. A project using the Chemical Abstracts Service Source Index was planned to assess the depth of the serials collection in comparison with university libraries with strong chemistry and chemical engineering programs.

Keywords and Phrases. Collection assessment, chemistry, serials.

INTRODUCTION

During the summer of 1986, The University of Texas General Libraries began a serial cancellation project in order to cope with rapidly rising serial costs. The project continued through the end of the year with a total of nearly 10 percent of the serial budget cancelled. As a result of the work done to determine titles to be cancelled and the concern that the chemistry collection was becoming a "bare bones" collection, the "CASSI Extract Project" was planned.

The Chemical Abstracts Service Source Index (CASSI) is a two-volume union list with detailed bibliographic information about serial and non-serial titles in the sciences. The basic volumes, covering the years 1907-1984, and quarterly updates list over 69,000 serials, conference proceedings and edited collections of titles in the chemical and other sciences. In the Chemistry Library at The University of Texas at Austin, CASSI is used dozens of times daily to verify titles of citations from Chemical Abstracts and to determine ownership of titles. Library staff in the four other science libraries on campus use CASSI as well to assist in title verification.

Major libraries in the United States and overseas have their holdings listed in CASSI. Because the information in CASSI is computer produced, it was speculated that Chemical Abstracts could provide printouts from the database according to specific criteria. By comparing CASSI holdings of The University of Texas at Austin with those of a library with a notably strong program in chemistry, it would be possible to assess the relative quality of the UT Chemistry Library's serial collection.

METHODOLOGY

Before proceeding further, Chemical Abstracts was contacted to determine if the information from CASSI was in fact available. Although Chemical Abstracts had never been asked to furnish such information before, the staff was quite willing to provide "extracts" of the CASSI database tailored to specific categories or needs.

The Chemistry Library wanted to compare its collection to university libraries with highly ranked chemistry and chemical engineering programs. It was decided to focus on the collections of The Massachusetts Institute of Technology and The University of California-Berkeley, both of which have highly ranked programs in chemistry, and chemical engineering[1].

Serials account for approximately 88 percent of the materials budget of the Chemistry Library. Despite this high percentage, concern grew after the cancellations that the collection contained just the basic titles. If the collection were to be enhanced, it would need to be through the purchase of current serial titles. For these reasons, the focus of the "CASSI Extract Project" was to be current serial titles.

Five separate CASSI extracts were ordered from Chemical Abstracts:

1. Titles owned by MIT but not by UT
2. Titles owned by MIT and by UT
3. Titles owned by Berkeley by not by UT
4. Titles owned by Berkeley and by UT
5. Titles owned by UT.

These categories are illustrated in Figure 1.

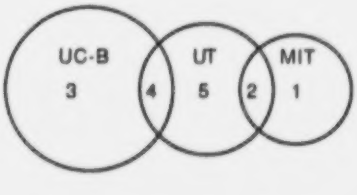


Figure 1. Five Categories of collection Overlap.

Upon inspection of the printouts received from Chemical Abstracts, it became very apparent that UT's CASSI *records were notably imperfect. The first few* months of work included submitting over 600 corrections to the CASSI database.

Identification of current serials was made using the "type of publication" code included in the extract entries themselves. Other types of publications included in CASSI are conference proceedings, edited collections, serials published under a changed title, and serials no longer published.

The current serial titles that MIT owns but UT does not, and the current serial titles that Berkeley owns but UT does not, were broken down in two ways. The first was by gross subject area. This was done by assigning an LC class or classes to each serial title using the Classified Library of Congress Subject Headings, key words in the title, and other information available in the CASSI entry. The second breakdown was done using the CASSI assigned country of origin code. For comparison, the serial titles that UT owns and reported in CASSI were treated in the same manner.

COMPARISONS

In order to compare the CASSI reported current serials collections of the three universities, it is first necessary to look at the collections broadly. Berkeley has the largest library of the three institutions. The University of Texas at Austin is second, and MIT is smallest[2]. These figures reflect the range of library collections and are not restricted to chemistry or even to science.

Volumes in Library

UC-Berkeley	7,031,934
UT-Austin	5,753,629
MIT	2,062,818

Berkeley also reports the largest number of current serial holdings, with UT and MIT falling second and third[3].

Current Serials Subscriptions

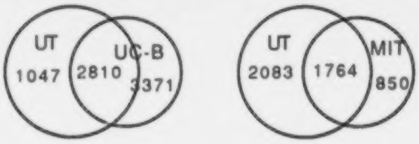
UC-Berkeley	99,065
UT-Austin	79,772
MIT	21,296

When looking at the CASSI-included holdings of the three universities, again Berkeley reports the larger number of titles, with UT and MIT reporting smaller total CASSI holdings.

CASSI Holdings

UC-Berkeley CASSI holdings	18,225
UT-Austin CASSI holdings	11,938
MIT CASSI holdings	8,799

The comparison of current serial holdings reported in CASSI is shown in Figure 2.



UC-Berkeley total	6,181
UT-Austin total	3,857
MIT total	2,614

Figure 2. Comparison of CASSI-Reported Current Serial Holdings.

The above information is helpful in getting a general picture of the collections of the three universities. Immediately one sees that Berkeley's larger holdings will give them more titles unique to their collection.

In order to identify specific subject areas in which MIT or Berkeley may be stronger and to what degree they are stronger, it is necessary to break down the titles that each holds but that UT does not, by subject area. As mentioned above, this was done by LC class. Results of the breakdown are shown in Table 1.

This breakdown points out specific subjects in which Berkeley and MIT own titles that UT does not. A relatively large percentage of the titles that Berkeley owns but UT does not fall into the medicine and agriculture classes. Because UT does not have an agriculture program or a medical school, it is not surprising that Berkeley owns many more titles than UT in these areas.

It is more pertinent that Berkeley owns 214 chemistry titles that UT does not and that MIT owns 108 chemistry titles that UT does not. This, in combination with the chemical engineering titles that UT does not own — 102 from Berkeley and 89 from MIT — led to further analysis to determine more information about these gaps in the collection.

A second way to illustrate the differences among the collections was to analyze the titles by country of origin. It was thought that Berkeley's geographic location on the West coast may demand that they have a larger Asian language serials collection. Country of origin information is included in the CASSI extract and can be readily tabulated. The tabulation was done for all the Berkeley and MIT titles that UT does not own. The totals in Table 2 may be slightly lower than the subject breakdown totals since titles may have been assigned to more than one subject area, but were only assigned one country of origin. Translation titles were counted under the country from which the translation comes, not the country from which the original journal comes.

Table 1. Titles that MIT/Berkeley Own and UT Does Not

Subject Area	Berkeley Number of Titles	Percent of Total	MIT Number of Titles	Percent of Total
Agriculture (S)	736	21.8	24	2.3
Multiple	334	9.3	57	5.5
Medicine (R)	271	7.6	70	6.8
Geology (QE)	264	7.4	49	4.7
Biology (QH)	216	6.1	31	3.0
Chemistry (QD)	214	6.0	108	10.4
Physics (QC)	205	5.7	111	10.7
Zoology (QL)	136	3.5	n/a	
Civil Engineering (TA)	124	3.5	87	8.4
Mining Engineering (TN)	114	3.2	46	4.5
Chemical Engineering (TP)	102	2.9	89	8.6
Botany (QK)	98	2.7	n/a	
Manufacturing (TS)	73	2.0	50	4.8
Technology (T)	71	2.0	23	2.2
Electrical Engineering (TK)	60	1.7	80	7.7
Physiology (QP)	59	1.7	10	1.2
Economics (HD)	57	1.6	n/a	
Food & Nutrition (TX)	55	1.5	14	1.4
Microbiology (QR)	54	1.5	5	0.5
Mathematics (QA)	48	1.3	24	2.3
Environmental Engin (TD)	38	1.1	23	2.2
Astronomy (QB)	31	0.9	13	1.3
Automobiles (TL)	29	0.8	16	1.6
Building Technology (TH)	17	0.5	14	1.4
Other Less Than 1% Each	42	1.2	30	3.1
TOTAL	**3448**		**983**	

Table 2. Titles that MIT/Berkeley Own and UT Does Not

Country of Origin	Berkeley Number of Titles	Percent of Titles	MIT Number of Titles	Percent of Titles
Soviet Union	676	20.1	145	17.1
Eastern Europe	440	13.1	63	7.4
USA	458	13.6	195	22.9
Japan	319	9.5	54	6.4
Great Britain	188	5.6	108	12.7
Other Western Europe	665	19.7	152	17.9
India	114	3.4	10	1.2
Other Asia	172	5.1	45	5.3
Central & South America	105	3.1	n/a	
Australia & New Zealand	65	1.9	11	1.3
Canada	48	1.4	18	2.1
Africa	48	1.4	n/a	
Other Less Than 1% Each	73	2.2	49	5.8
TOTAL	**3371**		**850**	

It is striking that 33 percent of the titles that Berkeley owns but UT does not come from the Soviet Union or Eastern Europe. Another large group – about 25 percent – comes from Great Britain or Western Europe, and a significant portion – nearly 14 percent – come from the U. S. The MIT percentages of Soviet/Eastern European publications and Great Britain/Western European publications are nearly reversed from the Berkeley percentages. Almost a third, 30.6 percent, of the MIT titles come from Great Britain or Western Europe, while almost a quarter, 24.5 percent, come from the Soviet Union or Eastern Europe. Another 22.9 percent come from the United States.

In order to better understand the data about titles that UT does not own, it is important to look at similar information for current serial titles in CASSI that UT does own. The information above indicates that UT lacks many Soviet and Eastern European titles. This is confirmed by information shown in Table 3 below. UT's CASSI reported collection is strongly western: 77 percent of its titles come from the United States, Great Britain or Western Europe. Only 5.9 percent of the titles originate in the Soviet Union or Eastern Europe. As well, Japanese titles are a notably small percentage of the collection.

Table 3. UT-Austin CASSI-Reported Current Serials

Country of Origin	Number of Titles	Percent of Titles
USA	1128	33.2
Western Europe	839	24.7
Great Britain	649	19.1
Eastern Europe	129	3.8
India	109	3.2
Japan	96	2.8
Soviet Union	72	2.1
Other	375	11.0
TOTAL	**3397**	

Because chemistry and chemical engineering are the areas of most interest, the QD and TP titles that Berkeley and MIT own, but UT does not were broken down by country of origin. The results are shown in Tables 4 and 5.

A significant portion of the chemistry titles that UT does not own come from the Soviet Union or Eastern Europe. Given the relatively small demand at UT for Soviet materials, it is somewhat surprising to note the strong collection of Soviet titles at Berkeley. UT also lacks many Western European and British titles. Titles from Japan are not a large portion of UT's not-owned group.

In chemical engineering, Western European titles are the largest group of not-owned titles, while the Soviet Union/Eastern European group are a smaller proportion of the group. Again, Japanese titles are not a large portion.

The information about chemistry and chemical engineering titles that UT does not own can be confirmed by looking at the same information for titles that UT does own. Table 6 shows UT chemistry and chemical engineering titles broken down by their country of origin.

In both chemistry and chemical engineering, UT's collection is dominated by U. S. and Western European titles, with nearly 85 percent of the chemistry titles and 90 percent of the chemical engineering titles coming from these areas. UT is markedly less strong in material from the Soviet Union and Eastern Europe. Just over 5 percent of the chemistry titles and only 0.7 percent of the chemical engineering titles originate from the Soviet Union and Eastern Europe. As mentioned previously, UT has comparatively little demand for Soviet journals. The lack of ownership of many Soviet titles is not viewed as a serious deficiency of the collection. Of much greater concern is the Western material that UT is not receiving. These titles will be reviewed carefully and considered for purchase.

CONCLUSIONS

Using CASSI as a tool to evaluate the Chemistry Library's serials collection has been a success in several ways. On a very practical level, the project gave the Chemistry Library staff a chance to easily identify and correct errors in the CASSI database. Because staff and clientele use CASSI frequently, the more accurate the information included is, the more useful CASSI is.

The project is a remarkably easy way to learn about a collection. In the Chemistry Library's case, the information confirmed several conjectures previously made about the serials collection: The Chemistry Library has a good working collection of titles in chemistry; there are some significant gaps in the chemical engineering collection; the collection is not strong in Soviet or Eastern European titles. In reviewing lists of serial titles not owned, titles have been found that need to be added.

The CASSI work has also, in conjunction with other ongoing projects, provided key information allowing a more focused collection management plan. The Chemistry Library has recently undertaken a journals use study. The five science libraries at UT have implemented a document delivery pilot project to purchase requested articles from journals that UT does not own. Increased awareness of the collection's strengths and weaknesses and increased flexibility in providing needed materials allow for better collection management. As the financial limitations of the Library become more apparent, it has become less realistic and less possible to aspire to a truly "comprehensive" collection. It has also become less feasible to maintain subscriptions to journal titles based on an anticipated future use. It is more critical to maintain ownership of titles that current users need.

And last, the CASSI Extract Project has been an encouragement to look at new uses for an old source.

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Table 4. OD-CHEMISTRY Titles – Berkeley/MIT Own and UT Does Not

Country	Berkeley Number of Titles	Percent of Titles	MIT Number of Titles	Percent of Titles
Soviet Union/Eastern Europe	111	51.0	37	34.0
Great Britain/Western Europe	40	18.7	30	28.0
United States	24	11.2	30	28.0
Japan	17	7.9	3	2.7
Others	22	10.3	8	7.3
TOTAL	**214**		**108**	

Table 5. TP-CHEMICAL ENGINEERING Titles – Berkeley/MIT Own and UT Does Not

Country	Berkeley Number of Titles	Percent of Titles	MIT Number of Titles	Percent of Titles
Great Britain/Western Europe	25	24.5	41	46.1
United States	24	23.5	26	29.2
Soviet Union/Eastern Europe	24	23.5	11	12.4
Japan	10	9.8	5	5.6
Others	19	18.6	6	6.7
TOTAL	**102**		**89**	

Table 6. QD/TP CASSI-Reported Titles at UT

QD-UT Chemistry Titles Reported in CASSI

Country of Origin	Number of Titles	Percent of Titles
USA	139	34.8
Western Europe	101	25.4
Great Britain	95	23.7
Japan	12	3.0
Eastern Europe	12	3.0
Soviet Union	10	2.5
Others	30	7.5
TOTAL	**399**	

TP-UT Chemical Engineering Titles Reported in CASSI

Country of Origin	Number of Titles	Percent of Titles
USA	74	49.7
Great Britain	35	23.5
Western Europe	25	16.8
India	5	3.3
Japan	3	2.0
Soviet Union & Eastern	1	0.7
Europe	6	4.2
Others		
TOTAL	**149**	

WEEDING THE COLLECTION: ARE LIBRARIES FAILING THEIR CHARGE?

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Abstract. This paper proposes that academic libraries are discarding valuable reference materials, including those within the field of librarianship. The author presents two situations illustrated with personal experience. First, that libraries are retaining information, but that that information may not always be in a valuable format, and second, that libraries are sometimes completely throwing away information sources. The paper concludes with some suggestions of ways to improve the situation.

Keywords and Phrases. weeding, deselection, reference materials.

Today, EVERYDAY, probably even as I speak, academic libraries are throwing away the sources of information which are necessary for the pursuit of scholarly inquiry. For hundreds of years librarians have been known as the keepers of knowledge, more recently we have come to substitute the term "information", but the concept is the same - libraries, and especially academic libraries, exist to provide a specific service to a specific clientele. We realize that we do much more than house information and that the library is much more than a warehouse, but we also acknowledge that the retention and dissemination of information is one of our most important roles. Libraries have always weeded, pruned, and discarded materials which no longer add value to the collection. The deselection process has never been easy. Now the changing format of materials, and in some cases severe space shortages, are making these decisions even more difficult. These deselection decisions are affecting the archival record in dramatic and demonstrable ways with little consciousness that the process is going on right under our noses. I propose that academic libraries aren't always doing a very good job of weeding. In fact, I propose that we are busy discarding important sources of information and that we aren't even doing justice to the source documents in our own field.

The impetus for this position paper was a specific situation which I encountered in the process of gathering data for a research project in which I am engaged. While the situation I encountered may be unusual, I am using it to alert our field to the issues related to the preservation of library materials unrecognized by librarians as sources of information for investigation into issues central to librarianship.

I am here today giving this presentation because of a situation I encountered while conducting research for another project. I am presently investigating the effects of the Thor Power Tool decision on the availability and cost of library monographs. Specifically, I am tracing the publication history of two samples of books, one sample includes items published some time prior to the decision, the second sample items published following the decision. To pursue this goal, I needed to consult three standard library resources: The Bowker Annual, to determine my population size based on total publisher output; American Book Publishing Record (ABPR), to collect my sample from the books reported as published during the two years in question; and Books in Print (BIP), to trace the publication histories of the books. The combination of these three sources are the only relatively effective method of tracing the "in print" status and "cost" of a group of items published in one year over the next five years. When I began my research I assumed that these three sources would be readily available, and indeed my task would have been easy had I needed the latest volumes, but unfortunately, that was not the case. I needed some volumes which were over ten years old. The task of locating the Bowker Annuals was easy, they were readily obtainable on the reference shelves of my own library. These are small, innocuous volumes, they don't take up much shelf space, and, more importantly, are recognized as a valuable compilation of library and publishing statistics. I suspect that most of your libraries still have them somewhere, although they may, like the ones in mine, be in need of a good dusting. In this case, I was able to obtain the information I required with no difficulty. The other two sources presented me with a different situation.

ABPR and BIP are two standard American bibliographic sources, ones which I assumed would be readily available. I was wrong. The first set I looked for was the American Book Publishing Record. I needed two volumes, 1974 and 1980. The 1980 volume was easy to obtain, primarily since no cumulation has yet been issued which covers that year, and so our individual volumes were still on the shelf. The 1974 volume was a different story. That year is now covered by a multi-year cumulation and EVERYONE has thrown away the annual volumes. I tried the major public institutions in my state (thinking that they never threw away ANYTHING). I tried large public libraries, (for much the same reason), I tried small public libraries (thinking that maybe they couldn't afford the cumulated volumes), I tried contacts within acquisitions departments (thinking that they might have forgotten desk copies sitting around the department). No luck. I tried interlibrary loan. The couldn't scare up a copy. A friend of mine even checked several academic libraries (including a library school library) in a neighboring state. No one could locate a copy of the 1974 volume. I did finally manage to find a copy through the assistance of personal contacts, but only after much searching, and my contact had to sort of sneak it out of her collection for me.

I believe that this example illustrates a situation where libraries have failed to understand that the forms of the information may be equally as important as the information itself. Every piece of data I needed was in the multi-year cumulation, but I needed to work with one discrete year. Each volume of ABPR contains a finite record of a year's publishing output and that was precisely what I needed. The same information was available in the multi-year cumulations but was not in a format useful for my project. Libraries have always understood the need to maintain information, and the libraries of today seem well aware of that need, but we don't always seem to recognize that to be useful the information has to be in a usable format. In this case we viewed the information contained in the annual volumes and in the multi-year cumulations as redundant. The INFORMATION was redundant, the FORMAT of the information was not.

In the case of ABPR the information was at least still available, even though not terribly useful for my purposes. The case if BIP is even more interesting. BIP is consulted everyday in every library in the country by hundreds, probably thousands of bibliographic searchers. As far as I can determine, when the new edition is received the old ones are sometimes rotated to another department for a year or so, or maybe kept in the stacks for a while, and then these poor worn books which have (to our viewpoint) given their all are discarded as useless. I beg to differ. I needed BIP's from the 1970's. Again, information that should have been easy to locate was not. My own library, and many others which I contacted had discarded their old Books in Print. As in the case with ABPR, I eventually found the volumes I needed but only after a long frustrating search. Everyone had either thrown them away or had them locked up in reference and would not loan them out. Again, through personal contacts, I found a set at a private institution 20 miles away which I was able to spring from their reference collection for a few weeks.

This example illustrates my second point. As information is updated we assume that the old information is useless and only takes up shelf space. Since the newest edition contains the most recent information we see no need to retain the old issues. I acknowledge that old copies of Books in Print, or of any updated reference source for that matter, take up a great deal of valuable shelf space, but I submit that to at least one researcher the information contained in the "dead" volumes was critical. I am reminded of the situation with electronic publishing. One of the biggest problems librarians have with electronic publishing, and with word processing in general, is that the history of an item is not available. When an electronic file is changed there is nothing to show us what was in the original file. We do the same thing when we throw out Books in Print. The current volume contains the current prices and availability, to those doing the weeding nothing else is deemed important. Well, if you are studying the publication history of books, the back volumes are invaluable.

Libraries have had hundreds of years experience with collection development. We love to select. We read bibliographies, collect additions lists, subscribe to review journals, review items OURSELVES. We establish large collection development departments staffed by subject experts. We perform collection analysis projects. Choice is available on cards so we can sort and resort the information as many times as we want. Traditionally, large academic libraries have collected virtually everything that was published (many times in multiple copies), circulated the materials with some care, dusted the shelves periodically, and housed everything forever, building ever larger stack additions, installing compact shelving so we can squeeze in even more volumes. For most of us those days are long gone. Book budgets no longer stretch forever. Serials are eating away at our monographic budgets. State coffers are no longer bottomless. New stacks aren't getting built. Libraries are FULL. I will be the first to admit that every academic library needs to weed and prune it's collection, but I fear that we do not always approach deselection with as much enthusiasm as we do selection.

By no means do I think that we need to follow the traditional model and build ever bigger barns. I fully support careful and thoughtful deselection. However I suggest that we need to deselect with caution. We seems to select with one attitude; we carefully select those items which will more enhance the collection. I am afraid that we do not always deselect with the same care, as illustrated by my inability to locate valuable research tools. These issues have always been before us. I propose that we need to become more sophisticated and systematic with our weeding, and that we must take care, particularly with our resources in librarianship, not to discard information that will no longer be available.

One suggestion I have is cooperative deselection. We have the model of cooperative collection development, and this has been somewhat successful primarily in narrow subject areas where the resources are very expensive and not heavily used. These programs are not fairly common, and many states provide specific funds for cooperative selection. I suggest that we can do a lot more cooperative deselection. There are many more models of cooperative selection than of deselection, but there are models. Some large state systems have established areas of specialization and specific libraries attempt to retain everything within those areas. I applaud these efforts. However, I am not aware of such a program specifically for reference materials. Large public library systems have established "last copy" policies where the last copy within the system will not be discarded. I should add that one of these public libraries had thrown away all their old ABPR's and BIP's.

This has been a position paper, and by definition it is supposed to end with "proposed solutions". I do not claim to come here with a solution: my point, my suggestion, is simply this; we need to sensitize ourselves before we throw away a large portion of our usable information.

In the past, large research libraries simply did not routinely weed. They selected everything and then keep it forever. We are entering a new century, one in which this will no longer be possible. The theme of this conference is "Building on the First Century". If we aren't careful we will throw away the foundation on which we plan to build.

PRESERVING OUR EDUCATIONAL HERITAGE: THE NEED TO ESTABLISH REGIONAL HISTORICAL CURRICULUM COLLECTIONS

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Abstract. Most colleges maintain textbook collections for students in teacher training programs. These collections are routinely weeded so that students become familiar with only currently available textbooks. Weeded items are often permanently lost from the record of educational history. While impossible for an institution to gather all editions of curriculum materials, it is feasible to establish regional research collections. The University of Illinois at Urbana-Champaign, aided by a federal grant, has established a center. Gifts flowing in from across the nation have confirmed the urgent need to preserve our educational past in order to understand our history and plan for the future.

Keywords and Phrases. Classroom materials, Curriculum collections, Educational history, Historical curriculum materials, Textbooks.

INTRODUCTION

As a recent survey by a subcommittee of the Association of College and Research Libraries Education and Behavioral Sciences Section discovered, there are very few significant repositories of historical curriculum materials in the United States. Most teaching colleges maintain collections of elementary and secondary classroom textbooks and curriculum guides for students in teacher training programs. Such collections are routinely weeded so that students become familiar with only the most current textbooks available for classroom use. This policy of weeding is common and necessary, but weeded items are often permanently lost from the record of educational history. Proposed is the establishment of regional research collections of curriculum materials in order to preserve a record of American educational history. A collection of historical curriculum materials has been established at the University of Illinois at Urbana-Champaign (UIUC), and the overwhelming response to the availability of this collection confirms the need for accessibility of these materials to researchers, scholars, educators and historians. In order to understand changes in classroom teaching techniques and materials, study of the actual materials used is necessary. Current educational theory has always been reflected in textbooks. Whether the emphasis is on content, format or presentation of materials, textbooks reflect the current trends and practices of educators. Consequently a study of classroom materials from any period can provide a close look at contemporary teaching philosophy. Regional collections of historical materials present an even greater opportunity to examine the historical trends within the context of local concerns. Since no single institution has the space, funds or mission to collect all examples of classroom materials it is proposed that regional curriculum collections be established.

BACKGROUND

In winter 1987, a survey was developed and distributed by a joint subcommittee of the Curriculum Materials Committee and the Problems of Access and Control of Educational Materials Committee of the ACRL Education and Behavioral Sciences Section. The survey was sent to 85 institutions which had been identified as having historical curriculum collections. Fifty institutions responded and indicated having collections dated prior to 1961. A listing of these special collections has been compiled and is in manuscript form for submission as a publication. Of the 50 entries, 3 are located in Canada. Size of collections range from 100 to 85,000 volumes. Most collections contain between 500 to 3,000 volumes. Some of the collections include items such as glass lantern slides, photo archives and desks.

The most sizable collection of historical curriculum materials is located at the Center for Research Libraries (CRL) in Chicago. CRL has 85,000 volumes of pre-1960 materials which includes postsecondary trade and business school items. While the collection is accessible to researchers in-house, only CRL member institutions may borrow materials via interlibrary loan. Nonmember institutions may borrow materials for a limited time for a fee. Materials do not circulate to individuals. While CRL provides a valuable service to the academic community, its restrictions are such that accessibility is limited to member institutions or researchers able to travel to the Chicago area. Regional, publicly accessible collections such as CRL maintains would greatly increase the availability of this type of specialized research material.

Given the proximity of CRL to the University of Illinois at Urbana-Champaign, it may be considered surprising that UIUC was determined to develop a historical curriculum collection, particularly as UIUC is a member of CRL. The decision to develop a historical collection was based on user demand and the institution's research mission.

In 1980/81 in anticipation of a National

Council for Accreditation of Teacher Education (NCATE) review, the College of Education at UIUC negotiated to transfer its curriculum collection to the Library. The curriculum materials transferred were primarily from 1957 to 1972, when the College ceased purchase of materials. Random sets of curriculum materials published later than 1972 were included only if they were received as donations. The immediate formidable task confronting the Library was to bring the Curriculum Collection up to acceptable levels in order to pass the NCATE review. In the process of achieving that goal, the need for a strong historical research collection was also identified. When the NCATE review was successfully passed, one of the remaining goals was to develop a historical component for the use of researchers and doctoral students.

METHODOLOGY

In the process of upgrading the UIUC Curriculum Collection, two methods were employed. A massive campaign of ordering textbook materials was undertaken at the same time that faculty members were solicited to donate elementary or secondary textbooks from their own collections. In the latter instance, it quickly became apparent that faculty members had maintained older materials because of a concern that only current curriculum materials were being maintained in the Curriculum Collection. Once assured that older curriculum materials would be preserved, faculty were generally delighted to clear out their offices and refer their doctoral students to the Library. Based upon the positive response of faculty to developing a historical curriculum collection, and due to frequent requests by researchers and scholars for access to such collections, a regular program of publicizing the Curriculum Collection and soliciting donations for the collection was undertaken. Publicity was handled through mailings to faculty, regular in-house newsletter articles, contacts made through local, state and regional library organizations and word-of-mouth. Publicity always included information about the availability of the Curriculum Collection as well as a plea for donations of textbooks and curriculum guides. The responses were always positive, and sometimes surprising. For example, one of the multitype state library systems shipped many textbook materials weeded from one of its public library affiliates. These donations included materials from the early 1900s. In another case, an alumnus donated a substantial collection which his family had collected for more than fifty years. Included in one such donation from a private individual was a small volume neatly covered in blue and white chintz. An embarrassed or modest student had taken the time to cover this 1885 primer on physiology and hygiene. From the quantities of materials donated from the 1800s through the early 1900s it became clear that these were treasured volumes which no longer had a place in private collections, but which were invaluable for research in educational history and curriculum studies.

As the need to develop and preserve these materials became more apparent, a proposal was written to secure a Title II-C grant from the U.S. Office of Education. The grant, as proposed, was to acquire, catalog and make publicly accessible, a collection of historical curriculum materials. This grant was successfully funded in fall of 1987 and concluded in December 1988. With the additional support of federal funding, it was possible to acquire curriculum materials much more comprehensively than previously. A significant collection of approximately 3,000 volumes from 1880 to 1960 was donated by a private college in Illinois. Another public university in Illinois currently sends all weeded curriculum materials to UIUC for inclusion in the collection. Colleges and universities from California to Massachusetts have donated small but unique collections of historical curriculum materials. In each instance, the donor is delighted to locate a repository for materials which will also make these materials publicly accessible. Donors are always advised that duplicate materials will be disposed of and arrangments must be made in advance for return of any duplicate items if desired.

USES OF COLLECTION

As publicity about the collection becomes widespread, researchers from outside the institution have requested access to the materials in the collection. Initially requests arrived from faculty and graduate students at private and public colleges and universities in Illinois. Subsequently researchers from nearby states, such as Wisconsin, have made arrangements to visit the collection or to borrow materials.

Without divulging specific details about individual research currently in progress, it is still possible to identify the general uses made of the collection. One frequent use is for comparative study over a period of decades, either by topic or by a single publisher. For example, undertaking a comparison of the way in which composition is presented in textbooks between 1930 and 1980. Another research interest is to select a theme, such as apartheid, and examine how it is treated or if it is even discussed in world history textbooks. Researchers may also wish to compare the level of difficulty in materials published over a span of years to determine if currently published materials are easier to read and comprehend than those published twenty years earlier. The much vaunted Dick and Jane books, part of the New Basic Readers, serve as an excellent example of research possibilities. In the 1960s, three separate editions of Dick and Jane were issued. One utilized the initial teaching alphabet, an "eksperimental" edition with phonetic spelling; another edition published for urban areas contained multicultural integrated illustrations; and, a third edition contained no minorities depicted in the illustrations, although the text was the same as the multicultural edition. Researchers would also find the current availability of curriculum guides on nuclear issues, AIDS, sexual abuse and teen pregnancy reflective of our contemporary society while fifteen years ago the emphasis would have been on ethnic issues and cultural heritage. While a researcher interested in bilingual materials might find a sample of Vietnamese, Spanish or Crow Indian materials in the UIUC collection, regional curriculum collections established in the western or southwestern United States could be expected to maintain a more comprehensive collection, representative of their regional interests.

PROPOSAL

It is recommended that regional research collections of curriculum materials be established in the United States. According to the survey of historical curriculum collections mentioned earlier, there are only five institutions with significantly large collections: UIUC; Harvard; Teachers College, Columbia University; University of Pittsburgh; and, the Center for Research Libraries. Of these institutions, Teachers College has a partial listing in RLIN, an automated bibliographic utility, and UIUC and the University of Pittsburgh are currently entering records into OCLC, another bibliographic utility. Not all of these institutions circulate their materials or are accessible via interlibrary loan. In addition these collections are heavily representative of the midwestern and eastern United States. Because textbook collections are enhanced by local and regional donations, additional sites should be established in the southern, southwestern and western states. Texas and California are widely recognized for their programs of statewide adoption of textbooks. Collections which feature materials particular to those states would be of great interest to the educational research community.

In order to establish regional research collections of historical curriculum collections, certain requirements must be set. An institution must be willing to support such a collection with staff, funding and space. The institution should recognize this as a long term commitment and ignore the current trend to shuffle the curriculum collection from the education department to the library and back again every few years. It should be realized early on that historical collections will need maintenance and preservation, and, in fact, some items may need to be located in the rare book facility. In order to be an excellent curriculum collection, an ongoing program of purchase and solicitation of gifts should be undertaken. Of necessity, this will require increased space as the size of the collection increases. Staff to provide reference, outreach, collection development and cataloging must be available. Regional collections should be publicly accessible to researchers, historians, educators, scholars and the interested public. If possible, holdings in the collection should be accessible through some national database or utility so that researchers will know something about the collection prior to a site visit. Interlibrary loan of materials not classified as rare should also be an option.

CONCLUSION

Based on the UIUC experience and a recent survey of historical curriculum collections, there is an unmet need to collect elementary and secondary classroom materials and make them available to the research community. Only a few institutions have sizable collections, and these collections are located in the midwestern and eastern United States. It is proposed that several regional historical curriculum collections be established to provide repositories as well as research centers for these materials. Institutions able to provide the monetary support and long term commitment to preserving these examples of our educational heritage should voluntarily begin to collect historical curriculum materials and publicize their efforts. Only a program of active collection and information sharing will be successful in establishing historical curriculum collections which will preserve our educational past in order to understand our history and plan for the future.

CIRCULATION PATTERNS OF RECENT IMPRINTS: IMPLICATIONS FOR THE MATERIALS BUDGET

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Abstract. In responding to decreased budgets for monographs, libraries often reduce the approval plan to a perceived core of material which should be the most relevant for teaching and research at their institutions. But does this material actually receive less use than other, less "important" books? This study compares the circulation patterns of recent imprints received on approval, and concludes that there were few differences in circulation among the eighteen categories examined.

Keywords and Phrases. Academic libraries, college and university libraries, approval plans, circulation studies, use studies, monographs.

INTRODUCTION

One hundred years ago when people thought of college libraries they no doubt thought of books: shelf after shelf of books, containing the collected heritage of civilization to be passed on to the next generation of scholars and citizens. Today, while many of the public may think of the library solely in terms of books, we college and university librarians know that books are but one format competing for what seems to be a shrinking library materials budget. Many of us in the last few years have seen an ever-increasing proportion of our budgets going to pay for serials. A recent survey of libraries in the Research Libraries Group found that, for whatever reason, monographic receipts had declined by 17 percent over the past three years.[1] In this paper, I will describe how one library tried to discover just what these more expendable books were.

Frequently the first and most obvious target for budget cuts in times of high serials costs is the monograph budget. Typically, a library reduces the monograph budget by relying entirely on faculty requests for monograph purchases, by drastically reducing its approval plans, or by a combination of these methods. Often, in cutting back the approval plan, librarians reduce it to a perceived core of material which should be the most relevant for research and instruction at their institution. The reduced approval plan may not include many books in science and technology, since most of the funds for these areas may be committed to serials.

THE SETTING

In the fall of 1986, the Sterling C. Evans Library at Texas A&M University saw the proportion of the materials budget devoted to serials rise to 72 percent. Texas A&M University is a large state-supported university with an enrollment approaching 40,000 students. A land-grant institution, Texas A&M has traditionally had strong programs in agriculture and engineering, but now offers doctoral programs in 72 subjects. The two fastest growing colleges are Business and Liberal Arts. During the early 1980s, the library responded to the burgeoning of new programs by greatly increasing the budget for new serials. Simultaneously, the size of the domestic approval plan grew so that it became one of the largest in the nation. The near recession in Texas during the mid 1980s caused the state-appropriated budget to remain static, while serials prices rose so rapidly that the library estimated that by 1990 the entire budget would be needed to pay for serials alone.

While a serials cancellation project was planned and carried out during fiscal year 1986-87, the budget for monographs was reduced immediately. Material that was clearly popular or that had only a peripheral connection to the curriculum was removed from the approval plan profile. When these cuts did not yield enough savings for the budget as a whole, the Resource Development Division took the step of eliminating from automatic shipment some titles intended for the academic audience, but which were not considered as important as other titles for graduate and undergraduate study and research. Our vendor, Baker & Taylor, called these titles "select" and defined them as those titles "most likely to be reviewed by the major professional and scholarly journals."[2] Baker & Taylor recommended this category of material for smaller libraries, or those with limited budgets.

In the winter of 1987, the Evans Library found itself in the latter category. The total amount allocated for domestic approvals was around $275,000, which seems like a generous amount. But this total was to be spread over some 72 subjects, many of them in the sciences and technology. The

Table 1

SCHOLARLY BOOK PUBLISHING RECORD offers a single, reliable source of information on the more than 35,000 new titles published or distributed each year in the U.S. of interest to academic libraries. All entries are selected by professional librarians for Baker & Taylor's Approval Program. Arranged by subject and author, each entry includes author, title, publisher, imprint or copyright date, LC number (when available), ISBN, and list price. See Key to Entries below.

Academic level, as indicated by the Key to Abbreviations and Symbols below, is also included. A definition of each level follows.

- **Undergraduate/Selected Undergraduate†**–works of solid scholarship in subjects normally taught in curricula leading to bachelor degrees. Includes reference books, texts, contemporary fiction, and bibliographies; materials derived chiefly from secondary sources. Selected Undergraduate is a subset of the Undergraduate level, providing a smaller universe of titles for libraries with limited budgets. titles included are those most likely to be reviewed by the major professional and scholarly journals.
- **Graduate**–works of in-depth scholarship in subjects normally taught in curricula at any stage following the bachelor's degree, for instance, material supporting both master's and doctoral programs. Includes case studies, foreign works, proceedings, and papers; materials derived from primary sources.
- **Professional**–materials directed to the practicing specialist in the given field. Includes guides, biographical dictionaries, and manuals.
- **Community College**–materials for the two-year college. Includes vocational and technical works.
- **Supplementary Reading**–works of light scholarship or journalistic style, providing background into traditional curricular subjects. Includes pictorial titles and theoretical treatises, materials derived from secondary or tertiary sources.
- **Extracurricular**–books which have no specific curricular orientation but do provide recreational reading to the academic community. Includes popular fiction, poetry, biographies, and popular nonfiction.

Also denoted by symbols (see key below) are books of special interest to college and university librarians, works which are the first volume in a new series of a new serial, and paperback titles.

Baker & Taylor, in the devlopment of its internal databases, requires a unique number to identify each title or edition of a title. Normally the number used is the ISBN. It is our experience that approximately 10%-15% of the titles appropriate for academic libraries (as listed in the Scholarly Book Publishing Record) are published by organizations which do not use ISBNs. In these cases, and on those occasions when publishers use the same ISBN for two editions, Baker & Taylor supplies an internal ISBN. These numbers, which can be identified by 9-99 as the leading digits, appear in the Scholarly Book Publishing Record. When ordering from Baker & Taylor, the inclusion of this number will ensure a direct interface with the title desired, just as with any ISBN. Obviously, the number has no legitimacy outside the B&T systems.

All titles listed in the SCHOLARLY BOOK PUBLISHING RECORD–approximately 2,500 each month–may be obtained from Baker & Taylor. Orders will be shipped as they are received.

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average price for an academic book in 1986/87 was $36.93, but the average price for a chemistry book was $69.71.[3] Consequently, the approval plan was re-profiled so that for most subjects in the humanities and social sciences, the library would receive only those titles coded as select. For the sciences and technology, graduate titles were exempted from this cut-back, for reasons related to publishing patterns and perceived use at Texas A&M. However, on the whole, the library would receive far fewer titles on automatic shipment, and all other titles which matched the profile would be sent as form selections. (University press books, received on a different profile, were not included in the cut.) This meant a tremendous increase in individual selection decisions as we shifted from an inclusive approach to the approval plan to an exclusive one. While the earlier cuts left selectors satisfied that we were no longer receiving material of questionable value for an academic library, the later profile changes produced uneasiness that we were missing many books which we would be unable to obtain later.

HYPOTHESES

To test the assumption that what was being excluded from the profile really might be less valuable to our users, a simple circulation study was designed. Three hypotheses were tested:

1. Those books defined as select ("most likely to be reviewed by the major scholarly and professional journals") by Baker & Taylor are more likely to have circulated at least once within the first eighteen months of receipt than those books not falling into this category.

2. Those titles identified for use at the undergraduate level are most likely to have circulated at least once than those labeled graduate.

3. For the three broad areas of humanities, social science, and science and technology, humanities books are least likely to have circulated at least once within the first eighteen months of receipt, and science and technology books are most likely to have circulated.

METHODOLOGY

A random sample of 1986 imprints received on approval in 1986 was drawn from each of these categories, plus a category called general supplementary ("works of light scholarship or journalistic style").[4] This category was added as a sort of control, to see if circulation patterns would be different for these more popular materials. Altogether, eighteen different categories were sampled, with a total sample size approaching 3000. This large sample size was chosen so that results could be tabulated at the 95 percent level. The microcomputer expert at the Evans Library produced the sample by writing a special program in Basic that included time as a factor to insure randomness.

1986 receipts were chosen because at that time the library was still receiving on automatic shipment materials in each of the categories, and because by the spring of 1988 the books in the study would have been in the library between one and two years, with eighteen months as the average. (Approval books are usually cataloged within two months of receipt, so that

Table 2

GROUPS TO BE SAMPLED

	Humanities	Social Science	Sci/Tech
General Supplementary	155 (110)	128 (96)	109 (84)
Select General Supplementary	243 (148)	182 (123)	142 (103)
Undergraduate	624 (237)	505 (218)	311 (171)
Select Undergrad	826 (262)	413 (199)	124 (93)
Graduate	510 (219)	666 (243)	873 (266)
Select Graduate	294 (166)	323 (175)	257 (153)

every title in the study should have had at least a year to circulate.) As the Pittsburgh study and others have shown that books are most likely to circulate within the first three years of addition to the collection,[5] then eighteen months seemed an adequate time to detect any trends.

All titles in the eighteen different categories were checked against the library's on-line catalog. Our automated system could not tell us how many times an item had circulated, but if an item had never circulated, the status "shelf" and today's date would appear on the record. If the item was currently in circulation, the status would be "charged;" if it had been renewed, the status would be "renewed;" if the book had a hold placed against it, "recalled" would appear as the status. If the status was "shelf" but a date previous to today's date appeared on the item record, then we knew that the item had circulated in the past.

As mentioned previously, an assumption of this study was that by the spring of 1988, almost all approval books received in 1986 would have been cataloged. An unexpected problem was that some titles (from three to nineteen in each category), did not appear in the on-line catalog. Further investigation revealed that most of the titles actually had been cataloged, but the transfer of data from OCLC to the OPAC had somehow failed for these records. At any rate, "Not in ALIS" became another possibility for the titles within each sample. For purposes of displaying overall results for each category, the number "Not in ALIS" was subtracted from the original sample size.

RESULTS

A very large sample had been chosen so that results could be tabulated at the 95 percent confidence level, but as it turned out, there was no need to run any statistical tests. The unexpected result was that virtually everything which appeared in the on-line catalog had circulated. Of the total of 2878 titles which appeared in the catalog, 2744 had circulated at least once, for an average circulation rate of 95 percent.

The results were uniform across all categories except one: undergraduate humanities. Of the 223 titles in this category, 53, or 23.8%, had never circulated. Let us look at this in terms of the original hypotheses. Hypothesis number one, that those books defined as select by Baker & Taylor were more likely to have circulated than those books not so designated, was not proven. Across all categories but humanities undergraduate, books without the designation "select" looked virtually indistinguishable, statistically, from their select counterparts. Books which had received little attention from the major reviewing media fared as well with our users as books which had been extensively reviewed. In most cases, the difference is between 97 and 99 percent circulation. Only the category humanities undergraduate shows a real difference in use for books labeled select. Select humanities undergraduate books showed an 87% circulation rate, while for the "plain" humanities titles, 76% had circulated at least once.

Hypothesis number two stated that those books identified as being for use at the undergraduate level are more

Table 3

SAMPLE DATA SHEET

	Humanities Undergrad
Charged	4
Renewed	14
Recalled	0
Not in ALIS	14
Today's date (never circ'd)	73
Have circ'd	132

likely to have circulated at least once than those labeled graduate. This hypothesis was studied because at Texas A&M University, undergraduate students outnumber graduate students by three to one, and also because of the presumption that for graduate students, especially in the sciences, journal literature becomes more important than monographs. However, except for humanities, where undergraduate books circulated less than all the others in this category, there was no difference in use among books designated for different academic levels.

The third hypothesis, that humanities books are least likely to have circulated at least once, while science and technology books are most likely to have circulated, proved to be true only for books at the undergraduate level. Undergraduate science books showed a circulation rate of 170 out of 171, while select undergraduate books in sci/tech showed a remarkable 100% circulation rate. This is contrasted with the 76% circulation rate for undergraduate humanities books and 87% rate for select undergraduate.

Social science books followed the same pattern as science and technology. The only other category to experience 100% circulation was select general supplementary in the social sciences. These books on current affairs, self-help and business tied with select undergraduate science books as the most popular with our readers. But again, we are talking about only a few percentage points here, because most groups fell into the 95 - 99% circulation range. So in a survey designed to discern differences, instead we see uniformity.

Table 4

NUMBER OF TOTAL WITH AT LEAST ONE CIRCULATION

	Humanities	Social Science	Sci/Tech
General Supplementary	99 (86)	88 (82)	73 (71)
Select General Supplementary	136 (133)	119 (119)	84 (82)
Undergraduate	223 (170)	209 (200)	171 (170)
Select Undergrad	245 (215)	193 (192)	90 (90)
Graduate	202 (197)	230 (223)	247 (240)
Select Graduate	153 (152)	169 (168)	147 (140)

DISCUSSION

These results were surprising, even considering that the sample was English language books intended for the academic audience. The approval plan profile at the beginning of 1986 was designed to promote inclusivity and was not tied closely to the curriculum. In casting about for explanations, several possibilities come to mind:

1. After cataloging, all books go immediately to a new book area for three weeks. This area is regularly browsed by students and faculty. It would be interesting to compare circulation rates of books which went to the new book area with another group which went directly to the stacks.

2. According to the ARL statistics, Texas A&M is a high net lender through interlibrary loan. An intriguing possibility is that some of these circulations were to other libraries. Unlike some libraries, the Evans Library places no restrictions on the lending of current imprints. However, the circulation system in place at the time of the study was not able to provide this type of data.

As to why humanities undergraduate books showed a lower circulation level than all other categories, one can only speculate. Perhaps undergraduate liberal arts students stick to the assigned reading lists of their professors, which may favor the classics over recent imprints. Perhaps these books designed to support the basic liberal arts curriculum are bought by most college and university libraries and so are less likely to be borrowed on interlibrary loan.

But these are only guesses. The reason for this study, as opposed to the formal hypotheses, was to see if cuts in the approval plan could be justified by lower levels of use of certain types of material. While questions remain as to the reasons for circulation, the evidence is clear that no matter how these books were categorized, they circulated. Restrictions in the purchase of current monographs can not be justified by lack of use, but only by lack of funds.

In the fall of 1987, the editors of the Journal of Academic Librarianship undertook a survey of ARL library directors concerning their responses to rising serials prices. One respondent suggested "that we have protected serials budgets at the expense of monograph budgets, and in the process, have penalized most the library user who recognizes the problem least--the undergraduate."[6] While faculty and graduate students rely on books, too, of course, they are more likely to have access through interlibrary loan to books not in their own library's collection. Many undergraduates do not have this option. At a time when on some campuses every student has his or her own microcomputer, it is ironic that one type of material which in the past was assumed to be of primary importance--books in the library--may be in short supply.

ACKNOWLEDGEMENTS

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NOTES and REFERENCES

[1] Statement by Charles Hamaker at the Chief Collection Development Officers of Large Research Libraries Discussion Group, Washington, D.C., January 7, 1989.

[2] See the page "Scholarly Book Publishing Record" in any recent issue of Baker & Taylor's Directions.

[3] "North American Academic Book Price Index, 1984/85-1986/87," The Bowker Annual of Library and Book Trade Information, 33rd ed. (New York: Bowker, 1988), p. 431.

[4] "Scholarly Book Publishing Record," Directions.

[5] Allen Kent and others, Use of Library Materials: The University of Pittsburgh Study (New York: Dekker, 1979).

[6] The Editors of JAL, "Paying the Piper: ARL Libraries Respond to Skyrocketing Journal Subscription Prices," Journal of Academic Librarianship 14: 9.

THUNDERBOLT ON CAMPUS: RACIST MATERIALS IN THE ACADEMIC LIBRARY

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Abstract. Secure in the principles of academic and intellectual freedom, academic libraries seldom review their holdings or acquisitions to determine if they might offend a particular person or group. However, racist and other socially controversial incidents can occur which draw rapid and unfavorable attention to objectionable materials in the library. Racism is an unfortunate fact of life on campuses today and many libraries are not prepared to respond actively when racist incidents challenge their collections. The appearance of a racist newspaper, The Thunderbolt, on one campus helped galvanize attention to racist viewpoints. Discovery that the library subscribed to the newspaper led to challenges of the library's role on campus. Such incidents demonstrate the need for libraries to actively prepare to defend their acquisition of controversial, even racist, materials as a valid and necessary part of their educational mission. In taking such steps, the library is defending its mission to expose students to a wide variety of viewpoints and give them tools to evaluate ideas.

Keywords and Phrases. Racism, racist materials, academic libraries, educational mission, collection development.

Academic librarians select materials in a broadly supportive environment. Departments encourage selection of a wide variety of materials for program support. Budgets usually contain funds adequate to select non-trade books and little known, but influential, journals. The selector has wide leeway in obtaining materials which represent the many divergent viewpoints of a field. Publishers systematically reprint peripheral as well as classic works in a field to provide this broad perspective.

Certainly, the subject bibliographer tries to collect a wide and diverse body of works so that scholars have comprehensive access to a subject. It is hard for us as librarians to describe such work as anything but noble. From the perspective of our discipline, there can be no question of the moral validity of such an approach and we are shocked when anyone labels such an endeavor as offensive.

The campus normally sees little of the internal routines of an academic library. Yet, that most important of behind-the-scenes routines, collection development, has the potential to passionately arouse a campus community in far-reaching ways. When the materials selected by librarians offend both students and scholars, it can cause the community to question the basic role of the library on campus.

Incidents can occur which draw rapid and unfavorable attention to objectionable materials in the library. A recent occurrence of just such a controversy reveals that while such conflicts challenge the library's raison d'être, they also suggest ways in which libraries can redefine and strengthen their role in the educational environment.

In the spring of 1987, prior to a speech at Northern Illinois University by the Rev. Jesse Jackson, racist epithets were shouted at black students on campus by white students "cruising" in a car. The reactions against this behavior by both black and white students, faculty, and administrators were instantaneous and passionately vocal. Picked up by the media in conjunction with reports of racist incidents on several other Illinois campuses, the NIU incident sensitized students, faculty and administrators to the continuing problem of racism there and on campuses throughout the nation.

In an attempt to foster positive racial attitudes, the library joined other colleges in a week-long schedule of "Unity through Diversity" programs intended to celebrate the diverse racial makeup of the campus. The library's contribution was an exhibit on race and religion in the lobby of the main library. This reponse was similar to that of the University of Michigan and other campuses where racist incidents have taken place.

It was in this volatile and racially sensitive environment that, in early September, 1987, a racist newspaper, The Thunderbolt, published by the National States Rights Party, was mailed to fraternities at NIU on a random basis. This prompted more publicity from the Chicago Tribune in an article entitled, "NIU again Plagued by Racial Incidents." The Vice-President for Student Affairs at NIU urged fraternities to discard The Thunderbolt if they received it. The NIU President and local newspapers quickly condemned the paper and everything for which it stood. Then, perhaps inevitably, someone noticed that The Thunderbolt was on the libraries' periodical shelves. The library had been subscribing to The Thunderbolt for the last twenty years.

Reactions to this revelation took on an ominous tone. The student who served as minority relations advisor to the Student Senate DEMANDED "on behalf of the student body" that The Thunderbolt be cancelled and all past issued removed from library shelves. The library responded by putting The Thunderbolt behind the desk for checkout and referring the issue to a committee for review. It remained in committee for three months. Occasional articles in the newspaper on the pros and cons of censorship fueled the campus controversy further. During that time, a number of librarians reviewed the intellectual freedom pamphlets from ALA's Office of Intellectual Freedom and voiced their stands on the topic in public forums. Hate mail related to the incident was received by several people on campus, a librarian among them. The controversy was intense and ongoing. Suddenly, the quiet process of materials selection had assumed great importance to a number of people who saw librarians as protectors of repugnant racist viewpoints or supporters of their own bizarre ideas.

The response of the NIU library in protecting the material and referring it to a collection development advisory committee was appropriate and right. What was unfortunate was that NIU was not prepared in advance to respond to such an incident. Racism is an unfortunate fact of life on campuses today and many libraries, like NIU, are not prepared to respond actively when racist incidents such as this one challenge their collections. Libraries should actively prepare to defend their acquisition of controversial, even racist, materials as a valid and necessary part of their educational role.

Should anyone think that racism is not a fact of life on today's campuses, a brief survey of articles from recent Chicago area newspapers and of events presented in a television production of the "Frontline" program entitled "Racism 101" should persuade them otherwise and demonstrate the need for a proactive stance on the part of libraries.

Huckleberry Finn, by Mark Twain, is the object of a continuing complaint that it portrays blacks in a derogatory way and is, therefore, inappropriate for young readers.

Gay students' publications are destroyed by homophobic students.

Swastikas deface a holocaust memorial near a campus.

A newsletter containing racist slurs is distributed at Harvard Business School.

At Columbia University there is a racial brawl involving black and white students.

A University of Michigan radio station airs a number of racist jokes about blacks.

At Virginia, a campus poll reveals that racism is the most serious problem on campus, ahead of drugs, alcohol, and academic pressure.

Stumpf, a self-styled satirical publication, is distributed by students and features poetry such as "White Power" and the "AIDS Song" which is racist, sexist, and homophobic.

All such incidents involve the library directly or indirectly through its collections. How can the academic library prepare to respond to racist incidents on campus and in the community? Should the library respond at all?

I maintain that there is a compelling reason for the academic library to respond actively to racist and other incidents. That reason is at the heart of the educational mission of colleges and universities and is reflected in every aspect of academic life, not just in the teaching component. The educational mission is to expose students to a wide variety of viewpoints and give them tools to evaluate those ideas. The library shares that mission.

Academic libraries are full of highly controversial materials. Racist materials are well represented both in historical collections and in current acquisitions such as South African government publications. Such materials are undeniably important in understanding the social milieu in which they were written, as well as the political and social attitudes which they represent. They are undeniably racist and represent viewpoints with which many in the campus community will violently disagree. But they have been deliberately added to the collections so that students can be exposed to and learn to evaluate such biased views. It is only in the context of the educational community that many will be exposed to such viewpoints for the very first time.

Moreover, the library is full of objectionable material which is sexist and/or prejudiced toward or against a nation, a religion, or a particular philosophy. Materials dealing with "objectionable conduct" are themselves frequently objectionable. Homosexuality, slavery, abortion,pornography, torture, and rape are topics which incite strong feelings. All occur in our society and our world and all are represented in the materials in our libraries. We can defend their presence with the intellectual freedom arguments, the rights to know or to read, but we must also explain their presence.

The first explanation many would give is probably a defensive or even a self-righteous one one. It may be "We get them for research purposes." I suggest that in that phrase "educational purposes" is more accurate. The academic library collects materials which serve to educate people on issues. Research is part of the academic library's mission, as is education. Examining both sides of an issue is the nature of good research, but is not always present in daily learning experiences. The academic library can ensure that access to information on both sides of a controversial social issue is the rule rather than the exception.

Balance should, therefore, be a guiding principle in collection development in the academic library. Representing both sides of controversial issues in the collections is a powerful rationale for the library's educational role as well as its research support role. A student encountering a viewpoint which offends should be able to use the library to put that viewpoint in context. Historical records, current affairs documents, social commentaries - all should be available as gateways to a variety of views that will allow students to formulate their own beliefs.

As part of its mission, the academic library can promote its role as storehouse of the objectionable and the censured. It provides students with materials that will give them educated choices and enable them to nurture and cultivate certain views and reject and discard others. Such a role places the library at the heart of the university's educational mission.

When controversy is present, when incidents occur, the academic library should be among the first on campus to respond. It can only do so if it has prepared for such incidents ahead of time. Patrons who are angry and upset will frequently direct their anger at institutions which symbolize the cause of their anger. With the materials it holds, the academic library is vulnerable to being seen not as an educational institution whose collection reflects an educational mission, but as a static storehouse which simply collects offensive, objectionable materials. As part of its educational mission, the library must educate patrons to perceive the library as an active participant in the educational process.

In February, the NIU campus newspaper trumpeted, "Thunderbolt to Remain in Library." The review committee had made its decision, and The Thunderbolt was declared to be necessary to the research (not necessarily the educational) mission of the University Libraries. In that same month, a serials review committee began reviewing all the library's serials to respond to a shortfall of funds. Not surprisingly, last spring, The Thunderbolt (which costs $10 a year) was put on the cancellation list for financial reasons. Now the question: should it be preserved in the collection because it represents a particular viewpoint? Does the educational role of the library on campus mandate representation of such radical viewpoints as those of The Thunderbolt?

However the questions surrounding this particular incident are answered, the library should not miss opportunities to proactively address racial controversies. The library should not be a reactionary presence on campus. It can and should be prepared well in advance to respond actively to educate as part of an educational community.

POLITICALLY CONTROVERSIAL MONOGRAPHS: ROLES OF PUBLISHERS, DISTRIBUTORS, BOOKSELLERS, CHOICE MAGAZINE, AND LIBRARIANS IN ACQUIRING THEM FOR AMERICAN ACADEMIC LIBRARIES

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Abstract. This paper begins by exploring the hypothesis that book selection and acquisitions policies and methods used in most American academic libraries have the result, intended or unintended, of failing to acquire many politically controversial monographs. It goes on to examine whether small presses and distributors market these books effectively to libraries. It then considers how review journals, especially Choice, influence the selection process. The study concludes by emphasizing the librarian's professional responsibility to seek out and acquire politically controversial books.

Keywords and Phrases. Acquisitions. Book Reviews and Reviewing. Booksellers and Publishers. Censorship. Choice (Periodical). College and University Libraries--Book Collections. Propaganda and the Library.

SAMPLE STUDY OF LIBRARY HOLDINGS

It was suspected that book selection and acquisitions policies and methods used in all but the very largest American academic libraries have the result, intended or unintended, of failing to acquire many politically controversial monographs. To test this hypothesis, a representative sample was gathered of 32 English-language monographs published between 1981 and 1987 by Africa World Press, Amana, Claremont, Cleis, Earth Resources Research, Latin American Bureau, Lawrence Hill, Marram, Monthly Review Press, Orbis, and Zed.

Subject areas included Africa (three titles), Latin America (six titles), the Middle East (four titles), Southeast Asia (two titles), United States or international matters (seven titles), women (six titles), and literature (four collections of essays about Africa, the Caribbean, and Argentina).

The titles were found in a U.S. distributor's catalog which appeared in Fall 1987. Descriptions accompanying the citations were used to select titles of broad, current interest that seemed appropriate for undergraduate collections.

During business trips through Alabama, Georgia, and Florida in early 1988, the titles were searched against the holdings of 45 general academic libraries, ranging from small community colleges to major universities. The findings were as follows:

Libraries holding 90 percent or more of the titles	none
80 to 89 percent	2
70 to 79 percent	2
60 to 69 percent	2
50 to 59 percent	none
40 to 49 percent	1
30 to 39 percent	1
20 to 29 percent	3
10 to 19 percent	7
1 to 9 percent	15
0 percent	12
Total	45

The figures form two clusters: six large research libraries hold 60 to 89 percent of the titles; 39 smaller libraries hold few or none. No title is held by more than 18 libraries; two are held by only one; the median held is seven; the mean is five.

BOOK DISTRIBUTION METHODS USED BY SMALL PRESSES

Book distribution has been described metaphorically as many streams constantly flowing from publishers to libraries and readers. But unlike "mainstream" books from large commercial and university presses, books with alternative socioeconomic and political messages encounter obstacles. To examine these difficulties, six small, progressive, American publishers--not the same group that produced the titles discussed above--were asked in 1988 to describe their marketing strategies. Initial letters with questionnaires were followed up by telephone calls.

Mailings. The presses reported annual budgets of $80,000, $40,000, $25,000, $20,000, $2,000, and $0 for mailing flyers and catalogs. Most of these promotional materials, however, are sent to private individuals, not to libraries.

Salesmen. Only two presses employ sales representatives. One spends $25,000 annually for a salesman to visit librarians at medium-sized and large universities after searching their card catalogs. The other pays a 14% commission to an agency that sends salesmen to visit professors at medium-sized and large universities.

Exhibits. Five of the six presses exhibit occasionally at specialized meetings of librarians and professional societies. All avoid large general conferences, where they "get lost" among the large corporations.

Approval Plans. Three of the small presses market books to libraries through approval plans. One bookseller includes all titles from three presses in its approval plan. Another includes all titles from one press and about 70% from a second. Other than these arrangements, the presses reported no marketing arrangements with approval plan vendors.

Distributors. The only distributor contacted reported no library mailings and no use of approval plans. Occasionally the firm has exhibited at ALA conferences. Its salesmen visit upper-division and higher institutions in some parts of the country but not others.

To look back at the two clusters of libraries in the Southeast for a moment, we can see how little they are helped by these marketing strategies. The librarians and faculty at the 39 undergraduate and master's level institutions probably are not on the publishers' mailing lists, rarely meet their salesmen, do not attend the specialized conferences where they exhibit, and cannot afford comprehensive approval plans.

At the six research libraries, chances are not much better. They too do not get the mailings; salesmen seldom visit the Southeast; travel money to specialized conferences is scarce; and even large approval plans cover small presses very inadequately.

BOOK REVIEW JOURNALS

Let us turn now to reviews. Five of the small presses send galley proofs or hardbound copies of all their new books to *Choice*, *Library Journal*, and *Publishers Weekly*. They estimate that 2% to 50% of these are reviewed, with a median of 20%. Some of these presses suspect, without hard data, that they are getting fewer reviews now than they did five or ten years ago. The sixth press, the smallest, sends books to *Choice*, but few are reviewed.

Choice (Periodical)

Patricia E. Sabosik, editor and publisher of *Choice*, said in 1988 that her staff was conducting a study of small presses. Preliminary results showed that *Choice* was doing about as well as it could. She said that the chances of a small press book being reviewed in *Choice* are better than in other review journals. She noted, however, that space limitations permit only 6,600 books to be reviewed each year. Foreign books, primarily of British and Canadian origin, now comprise 25 percent of *Choice*'s total. As the total number of books published or distributed in the U.S. continues to rise, she said, small presses may be reviewed in *Choice* even less often.

Exactly half the titles in the sample were reviewed in *Choice*, 16 out of 32. The *Choice* titles were found in Southeastern libraries almost three times more often than those that were not reviewed: 210 holdings as against 75. Three titles in the sample received special commendation from *Choice* as "outstanding academic books." These were the first, sixth, and seventh most frequently found books, appearing in 18, 11, and 10 libraries, respectively. On the other hand, one book that received a very unfavorable review in *Choice* also found its way into six libraries.

The *Choice* selection policy, adopted in 1983, states that subject matter must be relevant to undergraduate courses or to noncurricular student interests. It must be appropriately presented for undergraduate use and must demonstrate effective command of the subject and the methodology employed. In carrying out this policy, reviewers see themselves as gatekeepers guarding college libraries across the country from inappropriate books. But who guards libraries from the gatekeepers?

Three Ways for Review Journals to Reject Controversial Books

1. The Frontal Attack. Three books, two of them from the sample, illustrate biased approaches by *Choice* (and other major review journals) to politically controversial material. The first approach is the frontal attack.

South Africa's Transkei: The Political Economy of an "Independent" Bantustan, by Roger Southall (Monthly Review Press, 1983) is a model of good scholarship: 338 well documented, well organized, well written pages, full of tables, maps, and notes, followed by an index and an extensive, up-to-date bibliography.

The *Choice* review (November 1983) is negative throughout. The anonymous reviewer labels Southall a "neo-Marxist" and attacks him for daring to criticize a book by "a recognized authority," Newell Stultz. The reviewer quotes Southall out of context as follows:

> (In Stultz's work) political premises are so profoundly conservative (and many would use unkinder terms) that there is little point in confronting his analysis here.

The actual passage, following two pages in which Southall objectively summarizes Stultz's work, reads:

> *Stultz's assessment of Transkeian independence is undoubtedly a thoughtful piece which reflects a clearly humanitarian motivation, yet its* political premises are so profoundly conservative (and many would use unkinder terms) that there is little point in confronting his analysis here. *That task has already been undertaken elsewhere, and readers may themselves prefer to make their own judgements as to the relative merits of his own and the present author's widely contrasting approaches.* (Emphasis added. A footnote cites the journal article where the discussion can be found.)

The reviewer then urges scholars "seeking a more balanced perspective" to consult an older work by three other men instead of Southall's book. In citing the older work, however, he omits its subtitle, which states that it concerns two other South African homelands, not the Transkei.

The most extraordinary statement in the review, however, reads, "It is unfortunate that the author's point of view is allowed to intrude so forcefully on the description of events, personalities, and even other authors." Does the reviewer believe that authors should not express their point of view forcefully? Southall is indeed guilty of this charge. He unabashedly states his point of view quite forcefully on the very first page:

> . . . the implication of my study is that the bantustan policy is devoid of all progressive political potentialities, and that consequently, support must be unambiguously given to the forces of liberation which are struggling to overthrow apartheid rule.

I suspect that Southall's unambiguous support for "the forces of liberation" is the real reason why the reviewer does not want this book in our college and university libraries.

2. Ignoring the Book. Perhaps a more effective way of keeping politically controversial books out of libraries is simply not to review them at all. Pirates and Emperors: International Terrorism in the Real World, by Noam Chomsky (Claremont, 1986) is an example of this approach. The opening paragraph explains the title:

> St. Augustine tells the story of a pirate captured by Alexander the Great, who asked him "how he dares molest the sea." How dare you molest the whole world?" the pirate replied: "because I do it with a little ship only, I am called a thief; you, doing it with a great navy, are called an Emperor."

This is a book that grinds the teeth and sickens the stomach. Chomsky has assembled page after page of well documented evidence of terrorism conducted in the Near East by the United States and its client states. Worse than his attacks on our government, however, is the biting scorn that he aims at us--the citizenry, the academic establishment, the press, the Congress of the United States--whose gullibility, hypocrisy, subservience, acquiescence, complicity, and jingoism have made these crimes possible. He shows again and again how our vast public relations industry employs Orwellian Newspeak techniques in the "manufacture of consent." When we bombed Libya, for example, newspapers said it "played well in Peoria" and "should strengthen President Reagan's hand in dealing with Congress on issues like the military budget and aid to the contras." The book's final paragraphs read:

> The fraudulence and cynicism of the propaganda campaign about "international terrorism" has been exposed to the tiny audiences that can be reached by dissident opinion in the United States, but the campaign itself has been a remarkable public relations achievement. With the mass media committed to serve the needs of the state propaganda system, systematically excluding any commentary that might expose what is unfolding before their eyes or any rational discussion of it, the prospects for future successes remain impressive. This service of the educated classes to wholesale international terrorism contributes to massive suffering and brutality, and in the longer term, carries with it serious dangers of superpower confrontation and terminal nuclear war. But such considerations count for little in comparison with the need to ensure that no threat to "stability" and "order" can arise, no challenge to privilege and power.
>
> There is little here to surprise any honest student of history.

Perhaps there is little to surprise any honest student of history in the fact that Choice did not review this forceful attack on the American propaganda system. It might be disturbing for young people to learn in college that the free press in this democracy deliberately lies to them.

3. Recommending the Book only for Graduate Study. A third and more sophisticated approach that Choice employs is illustrated by another recent Chomsky book, On Power and Ideology: The Managua Lectures (South End Press, 1987), which discusses U.S. foreign policy in Central America. A generally favorable review in Choice (October 1987) recommends the book, but only for graduate collections. Reviewer J. D. Martz notes:

> . . . Chomsky's ideological position is admittedly revisionist and differs from more orthodox views. . . . This slender volume deserves a thoughtful reading, but readers who lack background in the subject matter may come away with a distorted understanding.

"Orthodox views?" "Distorted understanding?" What nonsense! Is Martz recommending books for American college students or for the Ayatollah? The anonymous reviewer of Southall's book makes similar remarks, urging "scholars seeking a more balanced perspective" to read a less offensive book and defending Stultz as "a recognized authority."

Such reviewers should be fired. One of the most important objectives of a college education is to develop the intellectual capacities required for the effective exercise of the rights and duties of citizenship. This is best accomplished in an atmosphere of free inquiry and expression, supported by the widest range of library materials. To deny our college students that freedom in the name of some arbitrary authority or orthodoxy is a form of tyranny.

Choice Selection Policy

Theory and Practice. The Choice Selection Policy *Draft 1983* declares under its subject guidelines for political science that "Strong efforts are made to ensure that *all viewpoints on controversial or sensitive topics* are represented" (emphasis added). That goal has not been achieved. Reviewers, acting with the power of medieval censors under the authority of the American Library Association and the Association of College and Research Libraries, can relegate controversial books to the dim cloisters of graduate libraries. They can put them under the interdict with harsh reviews. Or they can simply leave them in limbo by not reviewing them at all.

Consequences. These biased judgments by *Choice* have enormous consequences. They affect hundreds of undergraduate and graduate collections. They influence members of the public who consult reviews to determine the relative place of a title in its subject field. They are even canonized in *Books for College Libraries*.

Choice, USIA, and the World. In recent years, *Choice* has begun a program of exporting its reviews to foreign libraries in the United Kingdom, the European continent, India, and Japan. The United States Information Agency has given grants to ALA to carry out USIA projects abroad. Sabosik said one USIA proposal involved distributing *Choice* cards to foreign libraries, but the project had been shelved until after the 1988 national election. So ACRL, ALA, and *Choice* have ties to the propaganda ministry. Again, there is little here to surprise any honest student of history.

Choice and Other Review Journals: That *Choice* has been singled out for criticism here does not imply that it rejects politically controversial ideas more than do other review journals. *Library Journal*, *Kirkus Reviews*, *American Book Review*, and ALA's *Booklist* may be as bad or worse. For example, all those journals published negative reviews of a highly controversial book by Margot Harry, *Attention, MOVE! This is America!* (Banner Press, 1987), an exposé of the Philadelphia Police Department's bombing of the MOVE house in May 1986. *Choice* simply ignored it. An objective study comparing the treatment of politically controversial books by various American review journals is badly needed.

Small Press (Periodical)

Attention, MOVE! received balanced or positive reviews in several other publications, including *Small Press*, "the magazine of independent book publishing" (Sept./ Oct. 1983 -), formerly published by Bowker, now by Meckler. Gary Sanders, President of Liberation Distributors, wrote to me in a personal letter:

> If college librarians do not read (*Small Press*), it seems to me that they should, for it comes out bimonthly and gives its pages to books that are seldom reviewed in *Publishers Weekly* or *Library Journal*. . . . Its pages are open to small progressive publishers to a significant degree. . . . If academic librarians were to grasp the built-in biases in some of the major traditional review publications, they might begin to understand the importance of paying more attention to publications like *Small Press*.

THE VALUE OF POLITICALLY CONTROVERSIAL BOOKS

Politically controversial books are different. They produce ideas, not profits. They are not filtered, sanitized, and packaged by the giant corporations that deliver most information we receive. They do not leap automatically from the cash register to the shelves of our college and university libraries.

These books are our *glasnost*, our *samizdat*, our free voice. Every participant in the chain linking author and reader has a responsibility to bring them into college and university libraries. Publishers and distributors should tell librarians what titles are available and why they are significant. Booksellers should include them in their approval plans, even if they are not big money makers.

Review journals should put aside ideology and guarantee that all viewpoints on controversial or sensitive topics are fairly evaluated. Comprehensive bibliographic essays and collection management reports should consider the whole world, not just the West. They should consider all points of view, not just academic and political orthodoxy. Studies and reviews that fail to consider honestly the intellectual contributions of socialist countries, third world countries, and Western dissidents are instruments of propaganda. The "manufacture of consent" is not a legitimate goal of collection management or the college curriculum.

LIBRARIANS' RESPONSIBILITY

But regardless of how well publishers, distributors, booksellers, reviewers, and professors call attention to politically controversial materials, the ultimate responsibility for acquiring them remains with librarians. In almost all the 45 libraries studied here, and probably in hundreds and hundreds more across the country, we have failed our professional duty to seek out diverse political views.

These books are not expensive. Their absence from our libraries makes a mockery of ALA's vaunted "freedom to read." But we do not even notice that we are censoring our collections. Complacently, we watch our new automated systems stuff the shelves with Henry Kissinger's memoirs.

VI.
INTERNATIONAL PAPERS

AFRICAN IMPRINTS IN LIBRARY COLLECTIONS: PATTERNS OF DISTRIBUTION AND REVIEWS

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Abstract. This position paper will describe the range of African imprints easily available for acquisition in the United States to any library. Focusing on a small number of presses including both multinational and solely African-owned publishers, the paper will describe the presses in question, their relevance to general library collections, and their manner of distribution in the United States. Mention will be made of the African Books Collective, a consortium of African presses organizing to market appropriate titles outside of Africa. Generalizations about effectiveness of distribution will be made drawing on some of the findings of a larger study presently underway looking at patterns of holdings in OCLC for African imprints of the presses in question as well as the occurrence of book reviews in the general review media.

Keywords and Phrases. Collection development, African studies

The desirability of integrating a portion of of scholarly literature published in the third world into library collections outside of those traditionally seen as research level area studies collections is widely recognized. An idea brief presented at the 1986 Association of College and Research Libraries (ACRL) Conference, "Developing-World Imprints in Academic Library Collections," was followed by a 1987 American Library Association Annual Conference program meeting organized by ACRL's Asian and African Section, "Asia and Africa in Undergraduate Library Collections."[1] During both sessions, there was unanimous agreement among both speakers and those in attendance who participated in the discussions that there are third world publications of considerable relevance that if more easily available would be more widely acquired. This paper will attempt to look at this question for African imprints describing the range of African publishers distributed in the United States. Focusing on a small number of presses including both multinational and solely African-owned publishers, the paper will describe the presses in question, note their relevance to general library collections, and their manner of distribution in the United States. Particular emphasis will be paid to the black presses of South Africa noting the impact of the distribution of one such press, Ravan, by Ohio University Press in the North American market. Efforts to increase distribution will be noted as will some findings from a larger study looking at patterns of holdings in OCLC and reviews for imprints from the presses in question. Excluded from consideration in the paper are those distributors of African imprints offering extensive blanket order and approval programs whose focus is primarily on supplying research and special libraries.

A major study funded through the cooperative efforts of the Carnegie Corporation of New York, the Ford Foundation, the Exxon Education Fund, the Andrew W. Mellon Foundation, and the Rockefeller Foundation carried out by Richard Lambert in 1985-86 documents the rationale for a national foundation for international studies organized in a manner similar to the National Endowment for the Humanities, the National Endowment for the Arts, and the National Science Foundation. His resulting report, Points of Leverage, argues persuasively for the proposed foundation and pays particular attention to the growing emphasis on international education at the undergraduate level.[2] Notes Lambert, "...the widespread recognition of the need for introducing an international perspective into our general educational system and the very fact that decision making is widely dispersed have led to a remarkable upwelling of activity. A mini social movement is afoot to promote what is loosely referred to as international education. There are literally hundreds of national and regional nongovernmental organizations devoted solely to this purpose....At the same time, many universities and an even greater number of liberal arts colleges have separate administrators and special programs for dealing with the international aspects of their curriculum, and there are numerous consortia of post-secondary institutions...that help to reinforce individual campus initiatives and to sustain international collaborative efforts."[3] This tremendous growth in interest in the study of the third world at the undergraduate level provides further support of the need for the more widespread acquisition of English-language third world imprints in our libraries.

African imprints form a special subset of the third world's publications to which many undergraduate readers should have access. Useful overviews of the publishing scene in Africa include Eva Rathgeber's "The Book Industry in Africa, 1973-1983," which provides a comprehensive introduction to its development and Hans Zell's "African Scholarly Publishing in the Eighties," which updates Rathgeber and summarizes recent developments. Zell has also compiled "A Directory of Dealers and Distributors of African Studies Materials."[4] Focusing particularly on South Africa useful articles include Peter Randall's "Minority Publishing in South Africa" and "Publishing in South Africa: Challenges and Constraints," as well as "The Voice of the Voiceless: An Interview with Jaki Seroke." Another brief account focusing solely on the Ravan Press is Marc Chavannes' "Out of South Africa's Crisis."[5] Consulting this core of articles provides both a good overview of the continent's publishing scene as well as an in depth focus on South Africa, a particular area of Africa generating considerable interest to the broad spectrum of college and university library readers.

The publications of a relatively small number of African presses are distributed in the United States. In many ways, those easiest to acquire are those published by the multinationals. Publishers such as Heinemann and Longman have long enjoyed a prominence in this area. Their literary, humanities, and social science Africana lists combine African imprints with Africa-related titles published in Britain. Unfortunately, for a number of reasons, primarily the result of declining sales in Africa, the multinationals have not been so active in their African operations in recent years.[6] Titles from such publishers are, however, widely distributed in the United States and are easy for any library to acquire either directly from the publisher or through vendors. Many titles from these two presses in particular are frequently available in bookstores with African or black studies sections. Reviews appear of such titles on a regular basis.

Less easy to acquire are those African imprints sold in the United States by American presses and/or distributors. The Ravan Press of Johannesburg, South Africa, is an excellent example of a distribution system that works quite well for libraries. Distributed since October 1985 by Ohio University Press, Ravan's literary and social science titles focus on South Africa in apartheid's context with a perspective that offers views and analyses which challenge traditional interpretations of the South African system. It is not uncommon, therefore, for Ravan titles to be banned by the South African government. The initial list of 55 Ravan titles selected for distribution by Ohio University Press has been supplemented by subsequent advertising lists of additional titles which have been widely circulated. Ohio University Press has also advertised Ravan titles in Choice in the context of its advertisements for African studies titles. These titles have not themselves been identified, however, as Ravan imprints in the advertisements. Ohio University Press has brought Ravan Press to the attention of a general audience in the United States in a much more systematic manner than did, for example, Three Continents Press which in the past had distributed a much smaller number of Ravan titles along with several other African presses including Lovedale Press (South Africa), Popular Publications (Malawi), and Tana Press (Nigeria). As with Ohio University Press's handling of Ravan, Three Continents has listed African imprints it distributes in Books in Print easing the verification process for a purchaser. Two American distributors that also handle a small number of African imprints from a variety of publishers include Africa World Press which distributes Zimbabwe Publishing House and Red Sea Press which distributes selected titles from CODESRIA (Senegal), Skotaville Publishers (South Africa), and Zimbabwe Publishing House as well as titles of a few Nigerian presses. The latter is also notable for its lists which include in addition to African presses a selection of titles focusing on African and black studies from North American and British presses.[7] Unlike Ohio University Press and Three Continents Press, neither Africa World Press nor Red Sea Press consistently lists its distributed titles in Books in Print.

A publisher of special interest in a consideration such as this is Readers International whose efforts fall somewhere between that of the multinationals and those distributed presses.[8] Readers International takes important third world titles, reprints them under its own imprint, and markets them fairly aggressively not only to individuals but also to libraries. With regard to the library market, Readers International not only advertises but routinely submits copies of its titles for review to such important review media as Booklist, Kirkus Reviews, Library Journal, and The New York Times Book Review. Regrettably, its Africa list is very short, presently only three titles are available--Henri Lopes', The Laughing Cry (1987), Najabulo Ndebele's Fools and Other Stories (1986), and Uanhenga Xitu's The World of "Mestre" Tamoda (1988).[9] Additional African titles are planned for the near future. The importance of Readers International has been recognized by the Rockefeller Foundation which has given it a grant to subsidize 500 two-year subscriptions to its titles which number about eight each year to public, college, and university libraries.

Learning about titles from these and other African presses available within the United States can be difficult. As noted above, little difficulty is encountered with titles of multinationals and such arrangements as Ravan's with Ohio University Press. These titles are consistently listed in Books in Print, are advertised, are sometimes reviewed, and are easily handled by vendors. With the other distributors, however, the limited access noted above can prove a handicap in attempting to acquire a title known about but difficult to verify. Of those major book vendors exhibiting at the 1988 American Library Association Annual Conference which maintained lists of publishers handled that were available at the Conference, none listed all of the following: Africa World Press, Ravan Press, Red Sea Press, and Three Continents Press. Only one listed three of the four.

A new publication from the Library of Congress African Section, U.S. Imprints on Sub-Saharan Africa, can prove helpful in its listing of African imprints distributed in the United States. An annual, the first volume of which is dated 1985, covers Africa-related monographs published or distributed in the United States cataloged at the Library of Congress during the current or previous two years. Each volume appearing to date cites a small number of African imprints. An important feature of this work is an appendix listing the publishers' and distributors' addresses for all titles cited.[10]

A recent initiative to distribute African books outside of Africa is the African Books Collective. The goal of this cooperative, which begins operations in early 1989, will be to market a broad range of relevant English-language African imprints in Europe and North America. The Collective is committed to advertising in the markets it intends to serve and will seek to have its distributed titles reviewed. The Collective itself will not be profit making although it is intended that sales will bring profit to the individual publishers. Centralized stocking, billing, and payment will be handled in Britain. Purchases will be invoiced in British or American currency. Various standing order, blanket order, and approval plans will be available. Financial support to establish the Collective has been sought from various donor agencies including UNESCO. Grants have already been received from the Commonwealth Foundation and the Swedish International Development Authroity. Headquartered in Britain, 17 presses are involved presently in the Collective and have listed 159 titles in its first catalog distributed in October 1988.[11]

Effective means of distribution is a crucial step in getting African imprints into our libraries. The example of Ravan is important. Of the 55 titles distributed by Ohio University Press in its initial Ravan catalog all show OCLC holdings. The mean number of OCLC holdings for the 55 titles is 67.[12] Contrast that to the complete Ravan catalog itself of the same date (1985) for South Africa which lists 178 titles. Of the 127 not distributed by Ohio few show more than scattered OCLC holdings, some show none. Titles distributed by Africa World Press, Red Sea Press, and Three Continents Press show generally fewer holdings than do Ravan's. The Readers International titles show higher OCLC holdings, particularly for the two earlier published works, Fools and Other Stories which shows 312 holdings and The Laughing Cry which shows 189. Only published recently, The World of "Mestre" Tamodo, already shows 75 holdings.

Reviews in the general media can be a factor in bringing relevant African imprints to the attention of libraries. In this area, not much progress has been made. Only three of the titles listed in Ohio's initial Ravan catalog have any reviews cited in Book Review Index, and then it is only one review for each of the three titles. In fact, of the over 100 Ravan titles distributed by Ohio since 1985, only 11 have been reviewed according to Book Review Index. As of mid-1988, Choice had reviewed only two titles and both of those reviews have appeared in 1988 of 1987 Ravan imprints. Reviews of African imprints of other publishers and distributors cited in this position paper are similarly few, even for the multinationals. The only exception is for the Readers International titles.

The continued development of means to distribute English-language African imprints in the United States is essential if our libraries are going to be able to respond to the need to build collections truly international and intercultural in scope. While an increasing number of African imprints is becoming available for purchase in this country, it is not always easy to learn about these titles and reviews do not regularly appear. The systems established with the Ravan Press/Ohio University Press connection and Readers International appear to have been the most successful in getting African titles into a broad spectrum of American libraries and serve as models for others. Positive developments such as the new annual U.S. Imprints-on Sub-Saharan Africa and the potential for the African Books Collective will aid in the process, but more efforts are needed on the part of all concerned.

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AN AUSTRALIAN "DIME NOVEL" PUBLISHER

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Abstract. The works discussed here all originate from one Australian publishing house which flourished in the period c.1904-1923. They represent the most significant production of popular fiction ever to appear from any Australian publisher. Their significance in the contemporary Australian context, with some comparison with the earlier American scene, and the lasting value of some titles is described.

It is not surprising, in view of the communications between America and Australia, that dime novels were available in Australia, although probably never in large numbers. Cheap fiction tends to be produced for a local market, and developed in Australia around 1904.

The Australian works of which I shall speak here are not true dime novels in the sense of their physical appearance; nor are they of the type of fiction found in dime novels. The comparison lies in the popular market which they reached in the Australian context. Like the dime novel they were a part of the entertainment industry of their time. Unlike the dime novels, they were almost exclusively the production of one publisher, who created and held the market to himself.

Cheap mass produced locally published fiction came late to Australia when one remembers that *Malaeska; the Indian wife of the white hunter*, credited with being the first dime novel, appeared in 1860. In 1904, the venture was launched in Sydney by Alfred Cecil Rowlandson, the proprietor of a large chain of railway and ferry bookstalls, the New South Wales Bookstall Company. By the end of 1906, the Bookstall had published eleven titles, which is modest stuff by dime novel standards, but phenomenal for the developing book trade and for the population of Australia, which did not reach five million until the early 1920's.

Like the dime novel writers, most authors relinquished their rights and did not receive royalties. In Australia, with the rise of the motion picture, picture rights are also mentioned in most contracts; in the publisher's favour. Not that it always did the publisher much good, as the pirating of books, and changing their titles to create film scripts was a regular practice in Australia at the time.

The one shilling paper novel was not new to Australia but Rowlandson was the first to start in Australia a series which was to continue regularly with frequent new titles and many reprints. This was the "Bookstall Series". Rowlandson viewed his books as a disposable ity. Time was proven him right. The bibliography of these titles is by no means complete, because of their cheap production, the markets at which they were aimed, and their popular approach which has led to libraries having incomplete files of them. Poor collection coverage extends to the legal deposit libraries; what the U.S. calls "copyright" libraries (in Australia the various Copyright Acts provide for the deposit of works in libraries, but not as a part of the machinery of securing copyright). Libraries have good coverage of the titles published, but no library has anything like a full set of the successive editions and reprints. Poor documentation has not been assisted by the fact that the books carry only the year on their title page, and the rest on the cover. Covers were vulnerable.

Art work was an integral part in the book's appeal. Composition of the art work was largely left to the artist. Dozens of artists were employed by the Bookstall. Rowlandson was the first in Australia to see the value for book promotion of lively art work, both on the covers, which were coloured, and supplementing the text, where illustrations by many of the notable Australian black and white artists of the time, occur as not less then six full-page black and white line drawings. The line of illustrations had to be hard, vital and clear, as the course paper was deadly to fine work. For Louis Becke's *Bully Hayes* (1913) Becke posed shortly before his death for Norman Lindsay and provided Norman with descriptions for the drawing of Hayes and other piratical characters of the Pacific's notorious "blackbirding" era, in which Hayes had for a period been a prime entrepreneur.

The titles the books are simple and arresting, with the double-barrelled descriptive title used by the dime novel publishers being less common. Titles such as *In racing silk*, *Steve Brown's bunyip*, *The double abduction*, *The squatter's daughter*, etc., are the norm. Rowlandson's policy was to provide lively stories of bushrangers, horse races, gold, floods, bushfires, droughts and other Australian phenomena, and to cater for the current fascination with life in the Pacific Islands.

A published interview[1] with Rowlandson in 1915 brings out two other factors. Rowlandson's market was "Mary", as well as "Bill", unlike the dime novel, which seems to have been seen more as a male preserve. Secondly, he specifically mentions education. The rise of popular education in Australia as in America meant that the literacy rate was high, fostering demand for reading matter at economical prices.

The Bookstall did not develop a marketing policy of long series about the same character such as Nick Carter, Deadwood Dick, or Old King Brady which you find in the dime novels. The similarities with dime novels lie in the market being addressed. You do not encounter phenomenon of a stable of writers working for the publisher in any kind of factory approach. Some authors were near-amateur in the sense of their previous record of publication. Like the dime novels, some Bookstall titles were reprinted over and over again, and continued over a generation to find a ready market.

Although dealing with dramatic happenings, the themes of the books basically stayed in the realms of the credible to a greater extent then did many of the dime novels. There was romance, there was action, drama and heroism in the characters, but there was also a quality of comedy and humour to many of the books. They did not venture into tall tales, fantasy or larger-than-life situations and tension is commonly less strong than their strain of black, dry or slapstick humour; a humour aided by the illustrations in many of the volumes. Many of the wry qualities which some of you may have met in Mick Dundee, *alias* Paul Hogan, were present in these books.

The Bookstall books reflected and reinforced Australian cultural traditions; the ambivalence felt towards the bushranger being one of these. Our most famous bushranger Ned Kelly had only been executed in 1880. Bushrangers were admired, as well as being regarded as criminals. The other pervasive themes, still part of the Australian ethos today related to the admiration for life in the bush, worship of physical strength and manliness, simple morality and the love of the race course, including the love of gambling and the consequent acquisition of wealth.

The Bookstalls seem never to have fallen under the cloud of allegedly being a corrupting influence which hung over the dime novel. They lack, too, the selfconscious morality or didacticism of some dime novels, which may be a guide to a more general acceptance in the community. Light they were, but disapproval of the Bookstalls, where it existed, came from the intelligentsia.

By 1940, over 250,000 copies had sold of the most popular title of all: Steele Rudd's *On our selection*. Rudd's first books provided the infant Autralian film industry with several titles, and *On our selection's* stories of at times almost black comedy on the setbacks in the life of a struggling farming family in the backblocks was filmed several times, as were some of its sequels. Not less than twenty great Australian silent films resulted from Bookstall Series books in the period from 1910 to 1928.

Most of the Company's output seems designed to appeal to emerging Australian nationalism. In the 1907 issue of *Rowlandson's Success*, an annual of short stories and verse with illustrations, an advertisement for the Bookstall Series includes the sedate demand, "Be patriotic and encourage local industry, more especially as the books are equal to any of the imported lines". Years later, a publications catalogue includes a string of slogans, such as "Written by Australians for Australians". The Bookstall with its tight costing and cheap production, had steered its course successfully through titles judged by it to be good clean potentially large print-run, popular Australian work. This was a godsend for Australian authors who wanted to write against an Australian background; a problem in a English-speaking country with a small population.

The combination of shrewd judgement, outright ownership, paid advertisements and big print runs was the formula on which the success of the Bookstall Series was built.

After the death of Rowlandson, the character of the Bookstall as a publisher changed, and in 1928 the last of the Bookstall Series appeared. Philip Lindsay, son of Norman, to become a historical novelist in his own right, stated that in the late 1920's he and others were forced to leave Australia in order to get a start as writers specifically because of the demise of the Bookstall Series. The company lasted until 1957, latterly under Rowlandson's son, who did not demonstrate the flair for business of his father. The railway bookstall business gradually reasserted itself from 1922 onwards as the prime concern of the company. No doubt the re-entry of foreign titles into the Australian market at this time as trade re-opened following the War, coupled with the company's loss of the Rowlandson eye for success did not help.

In 1922 Rowlandson was not well. A hard worker all his life, he needed a rest, and a sea trip was prescribed. He set off with his family for San Francisco.[3] His daughter-in-law tells me that he intended to study the American five and ten cent stores whilst away, with a view to introducing them into Australia. When he reached San Francisco he was too ill to disembark, and on the return voyage died in Wellington, New Zealand, leaving a wife and a young family.

The man of elementary education left a large estate, and hundreds of grieving friends and associates. He had published over three hundred titles, running in all to over nine hundred editions and reprints often almost single-handedly whilst carrying on his other business ventures. Despite his popular approach, some works have proven to have been by no means ephemeral in their appeal. Several dozen titles have been in and out of print to this day as Australian popular classics.

[1] Mythical Australian animal said to live in water-holes.

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LATIN AMERICAN ACQUISITIONS: A CONTINUING CHALLENGE

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Abstract. The acquisition of Latin American material presents a set of unique and interesting challenges to collection development staff in libraries in the United States. Many Latin American nations have political, economic and cultural characteristics that exert a significant influence on their publishing industries. Understanding what these characteristics are, and how they influence the Latin American book trade, can lead to more fruitful and less frustrating collection development efforts.

Keywords and Phrases. Collection development; Latin America; SALALM.

Library collections in the United States that support research and study of Latin American countries are both relatively young and slow growing compared to collections supporting many other disciplines. Due to the efforts of a few dedicated and farsighted professionals, the collections in the United States research libraries of both published and archival materials have been built with persistence and careful attention to inter-institutional cooperative development. As interest in Latin American studies increases, however, library resources in smaller institutions to support a variety of programs become more essential. This paper will describe some current practices in Latin American collection development in the United States and will identify and describe contemporary and anticipated trends, needs, and problems in this area of librarianship. The content of this paper is based on personal interviews and observations made while visiting several major Latin American collections in the United States during January and February of 1988[1].

Collecting Latin American materials presents a number of unique challenges, not the least of which is the diversity of languages. As an example, at the University of Florida a growing interest in the Creole language prompted interest in the acquisition of materials in that language. A problem soon surfaced. Was the Creole to be French Creole from Haiti, the Creole spoken in Martinique, or the one spoken in Guadalupe? University of Florida, which has the Caribbean as an area of collection responsibility, also collects material in the Dutch, French, Portuguese and Spanish languages, a reflection of the Caribbean area's colonial heritage.

In addition to multiple languages, another characteristic of Latin American publishing is the non-traditional publisher. One of these is the use of printer as publisher. While this practice is not unique to Latin America, it is not as common in the United States. Basically it works as follows. An author takes his manuscript to the local printer and asks for a run of seven hundred copies, for which the author pays out of his own pocket. The title page shows printer as publisher, and when the run is complete the printer destroys the plates. The author then takes his books home, gives some to friends or colleagues and puts the rest under his bed. A second unexpected and non-traditional source of published materials in many Latin American countries is the commercial bank. Banks may be the largest publisher, such as in Ecuador[2] or may provide the most reliable information such as publishing better statistics than the Census Bureau in a given country[3]. Bibliographic control is virtually non-existent for these two types of materials. A scholar upon hearing of the publication, may request that his library purchase the material. In many cases, even with complete and accurate bibliographic information, acquisition is virtually impossible.

Another pecularity of Latin American publishing is due to the fluctuating paper supply, since Latin America imports most of its paper from Canada. As a result, the number of pages published by a given country in a given year has become dependent on international trade, currency restrictions and currency fluctuations. In countries with some of the staggering inflation rates seen in the past few years, imported paper for printing has become a luxury. This dependence upon a foreign paper supply also helps explain why the quality of paper used in many Latin American publications is lower than that used in the United States, and why the runs tend to be quite short.

The mechanics of obtaining materials from Latin America also presents some unique challenges. Since there is considerable political instability in many Latin American countries, and not all Latin American countries have a tradition of free speech in an open society, censorship is not uncommon. Censorship can be applied both to books published within a country and imported books. For example, Library "x" in the United States sets up a blanket order with a dealer in country "y" where the list of censored books changes monthly. The dealer ships a box of books to library "x", where it arrives three months later. Library "x" decides to return two of the books received. One is a duplicate, the other not suited to the collection. When the books return to country "y" the dealer must pay an import tax and, should one of the books then be on the censored list, present himself at the police station to explain why he is importing a banned book.

This also raises a less exciting but nonetheless critical issue. Many of the book dealers in Latin American are small family-owned operations with a very thin cash flow. According to standard U.S. business practices, payment is made after the material is received and accepted. This means a small dealer has to wait several months for payment since most shipments travel by surface rather than by air. Review, acceptance, and payment at the receiving institution is not a rapid process at most academic libraries. Passage of a month from unpacking the material to issuing the check is not unusual. This delay between shipment and payment is a real problem for the small dealer.

Latin Americanists make heavy use of exchange programs to enrich their collections. Government agencies and universities are excellent exchange partners because they do not go out of business, and in most countries they do the bulk of the publishing. Often there is no central publications office within the government or university to whom inquiries may be addressed. This is not an uncommon practice in the United States but it is more extreme in Latin America. SALALM (Seminar on the Acquisition of Latin American Library Materials) maintains a list of active exchange sources. Since many publications are free, an accommodating dealer in the country of choice may be willing to gather publications and forward them to the library for a small charge.

Bibliographic control of Latin American materials ranges from quite good to non-existant. While some countries do publish national bibliographies, notably Cuba, Mexico, and Chile, most do not. The Bibliographic Guide to Latin American Studies, published annually in the United States, is a comprehensive listing in dictionary order of all publications cataloged for the Latin American Collection at the University of Texas, Austin. With added entries from the Library of Congress, this is a most timely and useful tool. Other selection tools and bibliographies of value for acquiring current materials from Latin America are minimal, and dealers' catalogs must serve as a major source. While dealers' catalogs do not carry evaluative reviews, they appear in several other publications available in the United States. These include The Handbook of Latin American Studies, No. 47, edited by Dolores M. Martin, HAPI: the Hispanic American Periodicals Index, and the quarterly Hispanic American Historical Review, which includes lengthy signed reviews. Another quarterly, Revista Interamericana de Bibliografia, published by the Organization of American States, contains lengthy evaluative reviews in English and Spanish of books written in those languages. There are other reviewing tools available, such as Booklist, Lector , and World Literature Today . Each of these must be approached with some caution since they include books published in Spanish speaking countries other than those in Latin America, as well as translations.

The small or medium academic library wishing to establish or enrich its holdings in Latin American materials needs to draw a collection development policy with greatest care. Institutional priorities, needs of the foreign language departments, level of language of the student user, expertise and interest of the librarian overseeing the collection, and the expectation of continuing financial support must be factored into the final policy. Relying on the teaching faculty in the Spanish language department to do the selecting is likely to produce the same uneven result produced when other teaching faculty serve as selectors in their disciplines, with the added problem that many, if not most of the selections, will be written in the Spanish language. This severely limits the value of this material to students and faculty of other departments in the institution. Potential supporters of a Latin American collection can be found in such diverse departments as Business, Political Science, Arts, and Economics as well as areas such as ecology, folklore, and literature.

The following guidelines may prove useful for very small or initial collections. They have been distilled from conversations with experienced selectors.

1. Seriously consider purchasing only English language materials. This makes the collection available to all interested students and faculty, not just those who are fluent in Spanish or Portuguese.

2. Focus on a cross-discipline approach to materials rather than purchasing literature alone. If your institution does not teach comparative literature this material is of limited interest; and if your institution does teach comparative literature, the students will probably be required to purchase an anthology as a text.

3. Bibliography and acquisitions functions should be assigned to the same person. This avoids the creation of long lists of materials by bibliographers that cannot be obtained by the acquisitions department, creating frustrations on the part of both parties.

4. Define your field of collecting, then establish an approval plan with a U.S. dealer or a blanket plan with specified limits using a dealer in your country of choice. Runs are short and material goes out of print very quickly.

5. Join SALALM and attend the meetings. This organization is the best support group for collection efforts. The networking alone is worth the price.

6. Keep the holdings integrated in the general collection. This avoids the usual problems of where and how to place material and increases the visibility and usefulness of the material.

7. Exchange programs with Latin American partners can be useful if you have something to exchange, someone on the staff fluent in Spanish, and want materials in Spanish. SALALM has a list of exchange sources. Student workers can do a lot of the work and a P C based program simplifies recordkeeping.

8. If you do set up an exchange program with a government agency directly, request only those documents that report at a national level. Never write to a specific person by name at a governmental agency since political upheavals result in rapid turnover. The person to whom the correspondence is addressed may no longer be with the agency, and your letter will be ignored.

9. Enlist the support of several academic departments to purchase newsletters and clipping services as these are quite expensive, but widely applicable. Numerous basic reference works can be justified for purchase out of general funds.

10. Some materials can be obtained from consulates, either as gifts or by filling your want list. A good time to visit consulates is when ALA is in Washington or New York.

11. In dealing with a vendor outside the country, send him your want list, let him know it is his exclusively, set price limits and be patient. You may not receive some of the items for several years.

Many good reference materials on Latin America published in English are readily available since there is a growing interest in Latin America on the part of librarians in the U.S. and Europe. A lenghty bibliographic essay by Ann Hartness-Kane, published in Choice in June of 1981, can serve as an excellent starting point for a sound reference collection on Latin America.[6] Some of the sources are very familiar to all librarians, such as the Area Handbook Series prepared by the Foreign Area Studies of the American University and published by the Government Printing Office, the McGraw Hill Encyclopedia of Latin America, Oxford Companion to Spanish Literature, and the Cambridge History of Latin America. Several new and useful works have been published since 1981. These include Doing Business in and with Latin America by E. Willard and Ruby M. Miller, the Handbook of Latin American Popular Culture by Hinds and Tatum, and a catalog of 700 Cuban exile periodicals held at the University of Miami now in press. These last three works are of particular interest since they provide access to narrow aspects of Latin America culture and are thus representative of some of the excellent reference tools available. They also have value as additions to the collection in and of themselves, as well as serving as collection development tools.

Because of the nature of the Latin American publishing industry, its distribution system, the political unrest and instability, and the outright censorship of printed material, the systematic collection of material is and will continue to be a source of frustration and challenge to the bibliographers and acquisitions libraries who work with these materials for the forseeable future.

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BUILDING A FOREIGN LANGUAGE COLLECTION:
CHINA'S NATIONAL LIBRARY

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Abstract. National libraries in developing countries are confronted with a multitude of problems. Together with the demands and scarcity of resources, establishment of priorities become essential. This study examines the National Library of China (NLC), Beijing, showing how a national library seeks to serve national goals through a collection development policy. The emphasis of this work is upon the building of a foreign language collection.

Historical background and contemporary developments are examined to demonstrate how constructive and national planning affect continuous growth of the foreign language collection.

Keywords and Phrases. Collection Development Policy, Foreign Language Collection, National Library, National Library of China.

National libraries in developing countries are confronted with basic problems, among which are to convince the governments that libraries are important national institutions worthy of financial support and contribute to the nation's total development. Given the multitude of demands and the scarcity of resources, for example, foreign exchange, planning and establishment of priorities become essential for most developing countries. One method through which constructive library planning can be achieved and priorities agreed upon would be through a collection development policy.

This paper will examine how such a policy is being realized in China, with special reference to the collection of foreign language materials at the National Library of China, Beijing (hereafter referred to as NLC). Given China's needs and demands to procure information for development on the one hand, and the determined efforts to modernize, notwithstanding limited resources on the other, the NLC is an example of a national library in a developing country seeking to serve national goals in the face of resource limitations through rational and systematic planning. The NLC has sought to develop a collection development policy which assures the continuous growth and maximum utility of foreign language materials.

To enable the reader to gain some background to the development of the NLC's foreign collection, a brief history of the NLC's beginnings will be examined. Next we shall study the current growth of books and journals and its impact upon the Library in establishing policies to acquire these materials. Lastly, we shall view the recent technology and modern library development in the new NLC building and comment upon the positive effects that this will have on future plans and projects regarding collection development.

The NLC (similar to the Library of Congress) is both a comprehensive research library and a repository for China's national collection. It receives depository copies from publishers in China and collects publications in Chinese as well as in languages of national minorities. It is the largest library in China, rich in the collection of books, periodicals, newspapers, maps, prints and photographs, inscriptions on bronze, stone, bones and tortoise shells, manuscripts, microforms, and tape recordings. Under the jurisdiction of the Ministry of Culture, the National Library serves mainly the national administrative and legal organizations, scientific research institutions, and key production projects; it also offers limited services to the general public.[1]

The NLC has always pursued an active role in securing foreign language publications. The forerunner to the National Library was the Metropolitan Library of Peking, founded in 1912; in 1928 the Metropolitan Library was renamed the National Library. The period 1912-1925 was a time of great Chinese political instability; the government did not have enough funds to buy foreign books, therefore, many of the foreign language materials were received through exchange and donations.

The decade of the thirties was one of growth and development in the foreign language collection. This was a result of the return to China by the United States of the Boxer Indemnity Fund in 1901. To handle the Boxer Fund, in 1925 the Management Board of the China Foundation for Education and Culture formulated a policy for library funding. Henceforth, the National Library had a fixed fund for the purchase of foreign language publications. By the early thirties, the preponderance of acquiring Western scientific materials was evident. Fifty-one percent of the acquisition funds was spent for the procurement of Western scientific publications.

It cannot be denied that political upheavals have had a definite impact upon China's library development. For example, during the Sino-Japanese conflict of 1937-1945, the NLC received very few books from foreign countries. Beijing was under Japanese occupation and the foreign materials collection was transferred to the cities of Chongquing and Kunming. After the Japanese occupation of major coastal ports, by 1941 the importation and acquisition of books and periodicals from abroad became scarce. With the establishment of the People's Republic of China in 1949, the mission of the NLC followed along the Soviet lines: "to serve politics, production, workers, peasants, soldiers, and scientific studies." The aim was to build a productive socialist state, with the support of the National Library. During this time, many countries, especially the United States, adopted an embargo against China. Thus the National Library's acquisition of Western materials diminished greatly. China, meanwhile, turned toward the Soviet Union and Eastern European countries for assistance.

The 1960s was one of unrest and turmoil in China. This was the period when relationship with the Soviet Union was also waning. With fewer foreign contacts, China began a movement toward self-reliance; intellectuals were discouraged from reading foreign literature and access to new scientific and technological development from abroad was restricted. Developments culminated in the mid-60s to mid-70s during the Cultural Revolution when many libraries in China were closed. The NLC's collection, however, remained unharmed and the international exchange program continued. With the end of the Cultural Revolution, China stood in need of redirection. China realized its backwardness, resulting from the isolation. A shift in policy occurred. Beginning in the late 1970s and the early 1980s, the modernization of libraries in China and acquisition of Western knowledge became a major goal, particularly so for the NLC.[2]

In retrospect, since 1949 there has been a tremendous growth in the NLC's collection. In 1949, the library's holdings were a mere 1,400,000.[3] In 1987 the total collection was 14,265,402 volumes, a percentage growth of 919% since 1949. Out of 14 million plus volumes, books in foreign languages totaled 2,323,653 volumes (16.6% of the total). Western languages comprised 49% of the total foreign language collection. As the statistics indicate the NLC has vigorously sought to acquire foreign materials, particularly major reference books published in the English language. Not only books, but periodicals also were actively acquired. At the end of 1986 the total number of current foreign periodical titles numbered 13,693 compared to 9,148 current Chinese periodical titles--which meant there were 66.8% more current foreign titles than Chinese titles.[4]

With the development and growth of foreign materials, a national plan for acquiring these publications was required. An acquisition committee for book selection was formed in the eighties. This committee in the NLC initiates requests and sets policy for acquiring books. The acquisition committee was where selection and collection development plans were carried forth. In an interview with Wenjie Shao, Deputy Director of the NLC, in June 1988, it was learned that in late 1984 an acquisition meeting was held to discuss the formulation of an acquisition policy statement for Chinese and foreign language books. As a national library, it was determined that it was their obligation to collect comprehensively all Chinese materials including books, journals, and dissertations. And with the expanding interest in foreign scholarship, but with the high cost of foreign publications, it was agreed that a selective policy in line with the nation's interests and needs be defined. The results of this meeting brought forth the formulation of a collection development policy for the NLC. The policy can be summarized as follows:

1. Comprehensive collection of Chinese publications in various languages (including those published in Taiwan, Hong King, and Macao).
2. Comprehensive collection of foreign publications written, translated or edited by overseas Chinese.
3. The Library's foreign materials were to be selected and acquired according to four categories: comprehensive acquisition, selective acquisition (particular emphasis to be placed on certain subjects), very selective acquisition and inappropriate acquisition.
4. Comprehensive collection of foreign government publications and official publications of international institutions.[5]

During interviews conducted in 1987 and 1988 with Wenjie Shao, it was also learned that the library's primary focus was to collect materials mainly in the English language; other foreign languages were Russian, Japanese, German, and French. Currently there are 115 foreign languages in its collection.[6] As to the kinds of materials collected, the NLC aimed at collecting "almost all"; in theory there was no limitation, but in practice, it was not so. For example, in the mid to late 1970s, the acquisition policy was to collect primarily in the natural sciences and technology, including computer science, medicine, and life sciences. At that time 80% of the budget was spent on science and technology. In the 1980s with the introduction of political and economic reforms, more attention was being paid to the social sciences, including political science, economics, law, and management. For example, 60% of the foreign books and journals was purchased in the fields of the humanities and social sciences and only 40% in the natural sciences. These publications were essential to procure as they reflected the changing social structure and political needs of the country. Books which were few in number were those of agriculture, medicine and geology, as there were specialized libraries which collected in those fields. Certain "unsuitable works" not collected included pornographic novels.

Funding for acquisitions for the National Library came from the Ministry of Culture. The budget for 1988 totalled US $4,000,000 of which only 25% was allocated for purchasing foreign books. Sixty percent of the foreign materials budget went to periodicals and 40 percent went to books. Foreign currency was scarce and could not meet the escalated costs of foreign materials. There were several channels through which books were purchased: (1) Through China National Publications Import and Export Corporation (CNPIEC, official organ for the purchase of foreign books) and (2) ordering directly from foreign publishers and dealers. Both of these services were used, depending upon which of the two was most cost effective.

Materials in the Library's collection were mainly acquired through the following channels:
1. Depository copies from publishers in China.
2. Selection and purchase of Chinese and foreign publications from dealers and publishers.
3. Donations from institutions and individuals.
4. National and international exchange of publications. 5. Photo-duplications.[7]

An important avenue whereby the NLC procured foreign titles was through exchange. In the late 1980's, the NLC has exchange agreements with approximately 2,000 institutes in 120 countries and regions throughout the world. Their exchanges included not only foreign national libraries, but also foreign universities. Many exchange publications were scholarly and valuable and could not be purchased.

A new national central library building was completed in July 1987. Construction first began in 1983. It is said that the size of the NLC is one of the largest in the world, surpassed only by the U.S. Library of Congress. The Library houses all Western language materials together with Chinese language sources published since 1911. The Library has 35 new reading rooms, offering 3,000 seats. There are reading rooms devoted exclusively to foreign language materials: for example, the Newly Received Foreign Books Reading Room, the Western Language Reference Books Reading Room, Foreign Periodical Reading Room, and many more--the reading rooms have open stacks facilities.[8]

As we have discussed, the NLC as a national library, is a depository for all of China's national publications. However, a selective effort has been made to purchase foreign materials. The NLC has proceeded to write a constructive plan for acquiring foreign books guided by the developmental needs of the country. Presently, the NLC is equipped with large-capacity computers and other sophisticated automated equipments to become a National Bibliographic Database and Network Center. The current aim of the Library is to have an online computer system for multiple-languages so eventually there will be resource sharing and a coordinated acquisitions policy for foreign acquisitions with other libraries in China.

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VII.
PERSONNEL

MANAGEMENT COMPETENCIES OF MIDDLE MANAGERS IN LARGE ACADEMIC RESEARCH LIBRARIES

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Abstract: The authors received a grant from the Council on Library Resources to validate the methodology used by King Research, Inc. in its study of the competencies required by library/information professionals. The present authors examined the management competencies of middle managers in eleven large academic research libraries in the Midwest. They analyzed the data to determine specific activities and attitudes that characterize the superior middle manager in these libraries and compared the data to those management data gathered from academic libraries in the King study.

Keywords and Phrases. middle managers, management, competency models, critical incidents.

Research Project

One of the more controversial studies that has been conducted in the library/information field in recent years is New Directions in Library and Information Science Education, by Jose-Marie Griffith and Donald W. King[1]. Under contract to the U. S. Department of Education, King Research, Inc. examined the competencies required for professionals at three levels of experience: entry level, mid-level, and senior level. The study provides detailed data for the knowledges, skills, and attitudes required in academic, public, special, and other types of library/information organizations.

The present authors received a grant from the Council on Library Resources to validate the methodology used by King[2]. We examined the management competencies of middle managers in eleven large academic research libraries in the Midwest[3].

The goals of the project were to provide a profile on the managerial competencies observed in research librarians who are acknowledged top performers and to suggest a competency model for academic middle managers. First, let us define some terms. Middle managers are defined as those people in the management hierarchy above the level of supervisor and below the level of vice president; they usually are department heads or in charge of specific functions within the organization[4].

Competencies often are thought of in terms of either minimal or optimal. David McClelland defines competencies, not as aspects of a job, but as the characteristics of people who do the job best[5]. In addition, the purpose of competency studies is to develop competency models, which are decision models that describe the key capabilities required to perform a job. McLagen proposes a 20/80 rule in which 80 percent of the important actions for successful job performance are controlled by 20 percent of the competencies used in the job[6].

Many authors define competencies as being composed of three components: Knowledges, skills, and attitudes. Quoting the King study:

> Knowledge is having information about, knowing, understanding, being acquainted with, being aware of, having experience of, or being familiar with something, someone, or how to do something...
>
> Skill is the ability to use one's knowledge effectively...
>
> Attitude is a mental or emotional approach to something or someone...[7]

The authors interviewed three middle managers judged to be "average" in performance and three judged "superior" in performance at each of the eleven locations. The King study surveyed only the "superior" performers in selected regions.

King chose the "critical incident" method in which the researcher asks the individual to relate incidents which have occurred[8]. The investigator then develops a taxonomy from these narrations or compares them to a taxonomy which already exists.

Other ways in which our study differed from King's is that King interviewed only high achievers, the superior performers. In our project, we interviewed six middle managers--three average and three superior--at each of the eleven locations. King requested the subjects to relate only positive incidents while we asked each person to narrate three positive and three negative incidents.

Since King had not yet provided a taxonomy, we prepared, based on our literature search, a list of twelve subject headings by which to analyze the incidents. These consist of the usual topics of staffing, planning, communications, etc. We assigned one subject category to each incident. The superior middle managers reported 98 positive incidents (an average of 3.2 per person) and 50 negative (an average of 1.6). The 32 average middle managers reported 88 positive incidents (or 2.8 incidents per person) and 56 negative (1.8 per person). We found that people could quickly relate two or three positive incidents, but most found it difficult to remember more than one negative incident.

Our analysis indicated that the area of "personnel" by far dominated both the positive and negative critical incidents for both the superior and the average middle managers. This was followed by the categories of "organizing," "communication," and "control."

Follow-Up Study

Later when King published the twelve books of data which supplement the monograph New Directions...[9], we analyzed again our data, using King's taxonomy, for six of the eleven sites[10]. This time we assigned as many subject categories as were needed to define the incident. The superior middle managers (Table 1) had 51 positive incidents (2.8 per person and 29 negative (1.6 per person). The average middle managers (Table 2) had 49 positive incidents (or 2.7 per person) and 37 negative (2.1).

The new analysis resulted in a different interpretation of the data. Whereas the data for the superior middle managers at eleven sites emphasized the categories of "personnel," "organizing," and "control" for the positive incidents, the data for the six sites emphasized "staffing and personnel management," "communication," "organizing and reorganizing," and "control." The analysis of the negative incidents for the superior middle managers was the same in each case: personnel and communication.

The data for the two analyses of the average middle managers resulted in the same categories in slightly different order for the positive incidents. The data for the eleven sites were in "personnel," "organizing," and "control," while those for the six sites were "staffing and personnel management," "control," and "organizing and reorganizing." The negative responses also resulted in a slightly different configuration for the average middle managers: "personnel," "organization," and "communication" for the eleven sites and "staffing and personnel management," "communication," and "control" for the six sites.

Since the King taxonomy provided clusters of subjects, it permitted us to pinpoint some specific areas that were causing successes and failures. For example, in the category "staffing and personnel management" the dominant subcategories were:

Hiring and firing
Motivating
General administration
Staff development

In the category "communication", the dominant ones were:

Communication with management
and/or governing authority
Interpersonel, with peers and staff

We were looking for some clues which would clearly indicate what made these superior middle managers superior. We speculated that perhaps it was the attitude of these people. Prof. Murphy and I were surprised that 78% of the negative responses involving communication for the superior middle managers were listed under interpersonal communication. We reasoned that, although their administrators rated them superior in performance, the interviewees possessed such high standards for their own performance that they were concerned about each of their communication failures. The high negative ranking for time management, 83%, also might reflect their intense consciousness of their responsibilities. When we were interviewing people, although we did not know in advance who the superior people were, Prof. Murphy and I often were able to identify them. When listening to the tapes later, the quality, whatever it is, was not identifiable as it was in face to face conversation.

King validated their lists of knowledges, skills, and attitudes by sending them to a review panel and by sending them to hundreds of people who wished to participate in the exercise. The list of attitudes which we contributed to King's report is included in our report to the Council on Library Resources[11], but it is too lengthy in include here.

Conclusion

We regard our study as a step in developing models for evaluating the work of middle managers in large academic research libraries. We were unable to test the methodology because the information was not available at the time we submitted our report. We have listed in our report the studies that have been published on the qualifications of library/information professionals in all types of job situations. These studies are being conducted currently; the May 1988 issue of College & Research Libraries contains an article on career paths for academic librarians[12].

The King study consists of an analysis of a very small population of "superior" performers based on positive critical incidents. Therefore, we consider it one approach to developing models for evaluating the qualifications of professionals for their positions in library/information organizations.

272

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Table 1 ACTIVITIES

SUPERIOR MIDDLE MANAGERS (N = 18) (6 libraries)

No. of Competencies	Positive	Rank	No. of Competencies	Negative
31	Staffing & Personnel Management	1	25	Staffing & Personnel Management
20	Communication	2	18	Communication
15	Organizing & Reorganizing	3	6	Control
15	Control			
5	Planning	4	4	Planning
3	Physical Facilities	5	1	Organizing & Reorganizing
			1	Research & Development
			1	Marketing & Public Relations
1	Research & Development	6		
1	Other			
91	for 51 incidents		56	for 29 incidents

Table 2 ACTIVITIES

AVERAGE MIDDLE MANAGERS (N = 18) (6 libraries)

No. of Competencies	Positive	Rank	No. of Competencies	Negative
23	Staffing & Personnel Management	1	27	Staffing & Personnel Management
16	Control	2	12	Communication
10	Organizing & Reorganizing	3	10	Control
9	Communication	4	4	Organizing & Reorganizing
8	Planning	5	3	Planning
5	Research & Development	6	2	Marketing & Public Relations
3	Physical Facilities	7	1	Physical Facilities
			1	Other
74	for 49 incidents		60	for 37 incidents

PURPOSEFUL "SCHIZOPHRENIA": CREATIVE STAFFING THROUGH THE USE OF SPLIT POSITIONS

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Abstract. This paper describes split positions, joint appointment and dual assignment models, as they evolved at a medium sized academic library. Position duties and responsibilities of the two model positions are described and evaluated; advantages and disadvantages in the use of split positions are cited. Implications for the institution, department heads, library staff, and the individuals involved are noted. Creative staffing options, such as split positions, cannot make an inadequate number of staff adequate; they can, however, create a more satisfying and personally enriching work environment for the adventuresome librarians who wish to use them while addressing some organizational needs, as well.

Keywords and Phrases. Joint appointment, dual assignment, job satisfaction, staffing flexibility, reference, special collections, collection development, evaluation, cataloging, and maps.

In the waning days of the 20th century, most librarians and libraries are using conventional organizational form and structure. Our times, however, mandate creativity and innovation as we cope with significant issues and problems. The cost of information materials explodes as the dollar's value plummets; relationships among libraries, peer groups, consortia, and governing bodies are volatile; formats and means for information delivery proliferate; library budgets are static or increase only marginally as costs skyrocket; and the expectations of library users burgeon. If that were not enough, the diminishing pool of librarians makes it difficult to attract and retain the top quality professionals needed to meet these challenges of the 21st century. We will need the accrued strength of our first one hundred years to meet the challenges of the future.

Competitive recruitment requires an enhanced work environment and opportunities for individual enrichment. Staff retention demands techniques to combat boredom and burnout, as well as ways to stimulate and sharpen the skills of existing staff. Linsley (1984) attests to the dual assignment of reference/cataloging as her solution to reference burnout.[1] Fortunately, there are means within the reach of most libraries' resources to address these issues constructively with modest cost. Providing alternative job assignments is one such means.

This paper describes two models for creative staffing in use at one medium-sized academic library. In addition to defining these options, known as joint appointment and dual assignment, the paper includes two split position models, a summary of advantages and disadvantages and a conclusion. Because both kinds of positions are split between two departments, the authors took literary license with the popular connotation of a psychiatric term in entitling this paper. Thus "Purposeful Schizophrenia" suggests a positive and constructive splitting of a position, not an intractable mental disorder.

Our intent is to present a case study of how one library has developed specific models of split positions to meet internal needs. We offer them as useful precedents for other libraries to consider. A formal review of the literature is beyond the scope of this paper. Access to information on split positions is slightly problematic, since relevant citations are scattered among the fields of collection development, reference, library organization, personnel management, and the like. Several useful references, however, can be found in a recent article about balancing dual job responsibilities.[2]

DEFINITIONS

The Georgia State University Library has developed two distinct models for split positions. Joint appointment is the more formalized and permanent of the two. A position is designated as a joint appointment at the time of hiring and is designed to meet some special staffing need. The incumbent reports equally to two department heads, with each supervisor providing a separate annual evaluation and merit salary recommendation. Time is divided evenly between the departments. If one department needs additional help during a peak period, those hours are "paid back" to the other department at a later time.

Dual assignment, on the other hand, is less formal and usually temporary. The assignment is negotiated for an individual who is already on staff, most often at that individual's initiative. The arrangement is periodically reviewed and may be terminated by the incumbent or either department head. The secondary assignment is generally less than half time, and may be as little as a few hours per week. The work done in the secondary assignment is taken into account in the annual evaluation, but in proportion to the time spent. If conditions in the primary department necessitate a temporary reduction in the secondary assignment, an equal reimbursement of hours is not expected.

JOINT APPOINTMENT MODEL

One example of joint appointment is the Education Librarian, a position shared equally by the Reference and Collection Development Departments. Collection Development responsibilities include selecting library materials for the College of Education and acting as library liaison to the departments in that college. Reference responsibilities include bibliographic instruction, online searching, and reference desk service. The Education Librarian may arrange her time in any manner acceptable to both departments. The usual method has been half days in each department or alternating full days. In establishing the position, some administrative issues were raised. To which department head should leave requests be submitted? To which location would mail be sent? How would night and weekend rotations in Reference be handled? With these details ironed out, the joint appointment allows this individual to explore a discipline in greater depth than would a general reference position. The combination of collection development and reference is fruitful, as knowledge gained in one department enhances expertise in the other.

DUAL ASSIGNMENT MODEL

The dual assignment in this case study was negotiated after one year of employment by a general reference librarian who had an interest in archival collections. The negotiations involved the librarian, the Head of Reference, the Head of Special Collections, and the Associate University Librarian. All parties agreed on a dual assignment of 80% Reference and 20% Special Collections. Reference responsibilities include reference desk service, bibliographic instruction, online searching, and related duties. The Special Collections duties involve processing the papers of former U.S. Secretary of Labor W. J. Usery, Jr., preparing and conducting oral history interviews, and assisting in developing related exhibits. The dual assignment librarian spends one day per week in Special Collections, and enjoys both the change of pace and the opportunity to deal intensively with a specialized project. She says:

> My dual assignment refreshes and satisfies me by providing a sense of meaningfulness in my work. Reference offers a more global overview and Special Collections offers particular focus and subject specialization, a complementary combination.

ADVANTAGES

Split positions offer many benefits both to the organization and to the individual.

1. Recruitment efforts may be enhanced. Job candidates are briefed about the dual assignment option during their interview. This demonstrates the organization's interest in professional growth and reassures candidates that they need not be trapped forever in one job description. Joint appointment positions are advertised as such, and have an intrinsic appeal to job seekers.

2. Established staff members may find split positions an effective antidote to the stagnation that can result from years of unchanging duties. The dual assignment offers a chance to explore safely a new line of endeavor, or to develop additional skills that might lead to advancement. Providing such opportunities for growth should enhance satisfaction and help to retain experienced staff.

3. Working in two separate units of an organization invariably broadens one's perspective. These Janus-like librarians obtain an inside view of two departments, their workings, and their relationships to the over-arching organization. They may commit more readily to team playing and avoid narrow departmental loyalties, and share that perspective with colleagues. As the joint appointment librarian says, "One may act as a bridge between departments, providing colleagues with information about the department they don't know or understand."

4. An increase in staffing flexibility is one of the organizational benefits of split-position options. Our institution does not need a full-time maps cataloger, but by defining the Map Librarian as a joint appointment (half-time reference and half-time cataloging), we can justify hiring an individual with the requisite expertise. Joint appointment may also provide a compromise when staffing resources are scarce. We could not afford an additional bibliographer in Collection Development, though we clearly needed one. Since additional staff were also needed in the Reference Department, the solution was the creation of the Education Librarian position. Although all the staffing needs were not met, some needs were met in each department.

A dual assignment may be particularly useful in meeting temporary needs such as a leave of absence vacancy. The cyclical demands on libraries may also be addressed. The Reference Department might use more time from a split assignment librarian when six people go to a conference; Collection Development might need more time when a conspectus deadline draws near. Finally, a dual assignment may enable the secondary department to complete a special project which its regular staff could not accommodate.

5. Having two supervisors may give the employee the benefit of much constructive feedback on performance. Since the supervisors see divergent sides of the individual's work, their viewpoints may differ and thus enrich the librarian's self-understanding. Supervisors also benefit. One department head wonders occasionally if her approach to an issue or policy is consistent with that of other department heads. Realizing that staff are jointly supervised by another department head promotes the explicit discussion of these issues.

DISADVANTAGES

Any personnel policy is likely to sound more elegant in theory than it proves to be in practice. The following are a few of the disadvantages we have discovered.

1. Successful recruitment is not guaranteed for split positions. Joint appointments often require either more diverse experience or more specialized expertise than traditional positions. After designing a split position Media Librarian (half-time cataloging/half-time public service), we were unable to find qualified applicants. When good candidates are found, both department heads must agree on the final selection.

2. The logistical complications of split assignments are significant. Duplicate space may be required for desks and files, and some mail and message mix-ups can be expected. Scheduling issues can be complex. For instance, committee work and research activity may not clearly belong to either department. How are they accounted for? Supervision of a half-time person does not take half the time needed for a full-time person. In fact it may require more time, due to the need for frequent consultation with the second supervisor.

3. The "schizophrenic" librarians report the pressure of insufficient time in either department to do as much as they'd wish to do. While this feeling is also articulated by those in traditional positions, the split positions may well be inherently vulnerable to overextension. In planning activities, the split position librarian may feel competing loyalties, and when both departments have simultaneous peak work loads, there is little room for compromise. One joint appointment librarian articulated, "There are times when a librarian must say 'no'!"

4. Evaluation by two supervisors may catch the librarian in the Biblical injunction against serving two masters. Clearly, consistent cooperation and good communication is essential. Beyond that, it helps to have well-defined library-wide evaluation procedures in place. Our organization uses a goals-based evaluation process; since both department heads work with a single set of goals, they gain a realistic appreciation for the librarian's commitments to the other department.

Conflicting perceptions of supervisors may become critical at the point of deliberations for tenure and promotion. Conceivably, the split position person could achieve wonderfully well in one department and turn in a mediocre performance in another department. Both performances require consideration.

CONCLUSION

As libraries and librarians scramble to provide optimum working conditions for their staffs in the coming decades, creative job options will be tested. The joint appointment and dual assignment models described here have been refined and documented after several years of experiment and evolution. As the pendulum of the labor market swings back toward a shortage of librarians, the sagacious library administrator will exhaust every reasonable avenue to lure new librarians to employment and to retain experienced staff members. Creative staffing options cannot make an inadequate number of staff adequate; they can, however, create a more satisfying and personally enriching work environment for the adventuresome librarians who wish to use them while addressing some organizational needs, as well. As a dual assignment librarian said:

> I have circumvented the one dimensional perspective which limits to only one area. I have extended my professional world and experienced personal satisfaction in doing so.

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NO MORE GOOD WORKERS:
EXCELLENCE AND THE ACADEMIC LIBRARY CLASSIFIED STAFF

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Abstract. Using the characteristics of excellent organizations described in the popular works of Thomas Peters and his collaborators--*In search of excellence*, *A passion for excellence*, and *Thriving on chaos*, this paper reflects on how to cultivate excellence in academic library non-professional staff.

Keywords and phrases. classified staff, personnel management, hiring, communication.

INTRODUCTION

The enormous popularity of the works of Thomas Peters and his collaborators--*In search of excellence*, *A passion for excellence*, and *Thriving on chaos*--may be due to the fact that they not only tell us how things have gone wrong in American orgnizations, but how they can go right, and what the success stories have in common. While the examples of excellence which Peters describes are almost exclusively private-sector, for-profit organizations, it's useful to examine what these books might have to say to organizations such as academic libraries.

I'd like to preface what I have to say with a couple of disclaimers. The first is that I can't help feeling self-conscious about trying to use such trendy books as textbooks for library management. Librarians are often about ten years behind on our trends, anyway, and one has to wonder if this is just one more example of MBO, zero-based budgeting, quality circles, etc. You'll see plenty of evidence that "excellence" is a new buzzword which is being used and abused in advertising. On the other hand, there is something compelling and inspirational about the combination of practical advice, cheerleading and common sense which Peters' books dispense.

The second disclaimer is that I'm really going to be addressing such basic topics as motivation, and I hope I'm not dumb or naive enough to think that I can finally get that one nailed down for everyone in 1800 words, nor do I kid myself thatI'm a real expert on this topic who has come to deliver my wisdom to you. I have some concrete suggestions, all of which you have undoubtedly thought of already by yourselves, but what I really want to talk about here is our attitude, as individuals and collectively. I'm also not trying to make you feel guilty by pretending to be an exemplary manager or great leader.

EXCELLENT ORGANIZATIONS

Having said those things in advance, I'd like to move on to some ideas from Peters' books. Some of the characteristics which the excellent organizations seem to share are that they encourage independence and initiative in their employees, while at the same time fostering loyalty and commitment to the organization and its mission. The people in these excellent organizations make it their personal missions to accomplish the goals of the organization. These organizations lack the suffocating bureaucracies which stifle so many others. Their policy manuals are as brief as one sentence long. The upper management is visible and accessible, and they lack the trappings of executive status, such as reserved parking spaces keys to the executive washroom, which can create a barrier between managers and those they manage. These companies may be large, but in important ways they act small. They have defined their missions not as selling some particular thing but as serving their customers.

These characteristics seem so obvious as to be trite. In fact, they end up being easy to say and very hard to do. To achieve the sort of excellence Peters describes requires constant, enormous effort. It requires *having* a mission and a philosophy, knowing what *they are*, communicating them to people and the consciously living by them. It is much easier to construct a bureaucracy and live by a rule book than it is to make judgments, plans and decisions based on a one-sentence philosophy.

I think we can safely admit that the characteristics of excellence which I just listed are not consistently present in the academic libraries we may be familiar with. If we can accept that, how can we hope to strive for excellence in an academic library setting, and which, if any, of the characteristics should we concentrate on? I believe that the answer to that is, that just as the Ten Commandments can be condensed into two, and AACR2 into three rules, excellence can stem from pursuing "productivity through people." The other characteristics can all flow from that one, and we can test ourselves by asking whether what we are doing contributes to productivity through people. If we can accept that, then what stands in the way of accomplishing it?

NON-PROFESSIONAL STAFF

At this point, rather than take on all the problems which academic libraries have, I'd like to focus on one area in which we need a little excellence. That is the way in which we recruit, hire, train and generally treat the library's non-professional staff. While librarians may not always be treated in a way that leads to excellence, I feel confident in saying that classified staff are even less likely to be treated this way.

Hiring

Hiring is certainly the place where excellence begins. While it's very true that the tasks we are asking people to do are more complex than they were in the past, the answer to finding the right people for these jobs is not to write job descriptions with more stringent requirements. I'd be in favor of eliminating any experience requirementin as many cases as possible, as well as getting rid of any other requirement which would cause you to eliminate someone with the right stuff--initiative, creativity, independence and intelligence. The problem, of course, is that in an academic setting, requirements for hiring are written in alrge part to comply with the regulations of a state personnel or other civil service system, as well as to comply with EEO and Affirmative Action programs. While these last two things at least are worthy goals, we shouldn't let the requirements of the larger bureaucracies we are a part of serve as an excuse for lack of creativity and intelligence on our parts when we are trying to fill positions with the kind of people we want. As an aside, I can't help feeling that credentialism and the inflation of requirements seem to be an impediment to recruiting the best librarians as well. When I see an advertisement in which experience is required for what is essentially and entry-level job, or that a second masters degree is required for tenure, I think of the good people who are going to be eliminated by these requirements. Here again, while changes in hiring procedures to comply with the law have been by and large a good thing, I don't really think that we necessarily recruit better people now than we did when a library could rather casually hire someone over the phone or by letter. It may be more fair now, but it is not necessarily more effective. We can't entirely escape bureaucracy, unless higher education in general were somehow able to escape it. But libraries historically favor the docile, tractable employee who will work by rote, plug away until retirement and never question the status quo. This is called "being a good worker." It is not conducive to high productivity, creativity or innovation.

If we agree that we'll try not to hire any more good workers, what should we do with people once we've got them, to make sure that we encourage excellence? Academic libraries are unlike private companies in one very obvious way: we cannot try to win loyalty and commitment through things like profit-sharing, nor even by rewarding good work with a raise in many cases. But Peters' "excellent companies" don't use those things exclusively as a way of motivating people anyway, so we really can't use that as an excuse.

Library faculty members seem to be motivated by something other than money or even promotion. We are willing to devote the time we do to the things beyond the scope of our daily jobs, perhaps because in the library caste system we are at the top. It's hard to see how classified staff could be motivated to give their utmost, when we maintain a rigid hierarchy and class system which shuts them out.

Communication

After we've hired the most intelligent, creative and undocile people we can find, the first thing we can do to encourage excellence on their parts is the ultimate cliché--communicate. It is endemic in academic libraries that classified staff members, even those who enjoy their work and do it well, feel that morale is bad and that communication is terrible. Maybe they're always right, no matter how much worse is could be. Too many times we don't work hard enough to make aure that staff members have enough information about what is going on in the organization and how it will affect them. In the long run it pays off to treat people as if they were interested in the activities and plans of the entire organization. The more information people are given, the more they will identify with the values of the organization. This is one of the most obvious cases of "easy to say, hard to do." Library managers and adminstrators have to believe that communication is something worth spending time on, that it's just about the most important job they have, and not merely something nice to do. Getting back to rooting out docility, communication has to be able to go two ways. This implies that all levels of management have to be as visible and accessible as possible. How many staff members feel comfortable barging into the director's office with a suggestion, idea or complaint? How many even feel comfortable doing this with their supervisors or department head? "Good workers" are supposed to be compliant. We probably all know examples of people who have fallen out of favor by being too outspoken or obstreperous, even if they care more about the organization or do a better job than some of the "good workers."

Judgment, trust and the class system

Now that we've hired the best people and we're diligently and enthusiastically communicating back and forth, the next thing we can do is try to reduce the wide gulf between librarians and non-librarians. This means that librarians will have to give up our insecurity, our inferiority complex, and our feeling that as faculty members we must maintain our status at the cost of treating classified staff like second-class citizens. It also means that managers will have to trust people.

There are at least two ways in which we show our lack of trust. The first is the amazing amount of Mickey Mouse which exists in academic libraries. (Unfortunately, librarians are victims of a lot of this, too.) No wonder staff members feel stifled and resentful when we tell them when they can take breaks, make them fill out time cards and punch clocks and generally treat them like children. Here again, we may use the excuse that the law requires it, the union requires it, the university requires it. If we really believed in productivity through people, however, I think we'd find a way to eliminate the Mickey Mouse and still do what the law, the union or the university require. If you can help it, don't make rules or policies about what people can or cannot do. Yes, some people will "cheat" if you give everyone latitude, but what is it worth to police and restrict people? What do we get out of it?

Empowerment

The second way we show our lack of trust, and this may be more embittering and discouraging in the long run, is the lack of empowerment and autonomy which many staff experience. They are not allowed to take initiative or make any but the most trivial decisions, and therefore feel that they have no stake in the running of the organization. We need to examine the kinds of decisions we feel must be made by a librarian or must be passed on to some higher authority, and push autonomy and decision-making down to the lowest appropriate level. How can we hope to ask for initiative and creativity when we are such slaves to tradition and maintain such devotion to preserving our caste system? Far from having one-sentence policy manuals saying "Use your best judgment at all times," we like to have everything spelled out for us so we never have to use judgment of any kind. (I have to note that catalogers are probably the worst culprits when it comes to wanting a manual to consult for every decision, and our new excuse is that the network demands standardization.) This takes a large investment of training and communication to be successful, but if we really want excellence, we have to believe it's worth it.

CONCLUSION

In some ways it's hard for librarians and library managers to feel the kind of commitment and enthusiasm required if we want an excellent organization. But if we believe all the loose talk we hear about the library being people and not books, there is nothing else we can do.

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IDENTIFYING ADMINISTRATIVE POTENTIAL IN ACADEMIC LIBRARIES

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Abstract. The internal identification and practical development of future library administrators is realized through two "training task force" programs, one on budgetary matters with a second on goals and objectives at the University of North Texas Libraries. Benefits centered on exposure to decision-making processes, committee interactions, and broader perspectives; concerns about expenditures of time, effort, resources and long-term results were noted. A subsequent survey of ARL and other major research libraries provides insights into both internal and external library administrator training methods. Survey results tend to support perceived values of in-house programs for administrator identification and development.

Keywords and Phrases. Task Force Programs, Evaluation of Potential Administrators, and Research Libraries.

Any organization has a constant need for new managers and administrators. When the time comes to satisfy this need, the organization can select individuals from within or from outside the organization. In either case, the organization must determine if the potential administrator has the skills and abilities to oversee the operations and employees in the particular open position. In most cases, the candidates rarely possess fully developed abilities and must be trained in order to fulfill their assignments.[1]

In the private sector, it is an acceptable practice to identify potential administrators at an early stage in their careers and bring them along on the "fast track." Organizations spend time, effort, and resources to train and develop these potential administrators for positions within the organization. Academic libraries have rarely employed this method. Too often the rule of "if they are a good librarian, they will be a good administrator" is applied to potential library administrators. Sadly many new library administrators are simply left to "sink or swim."

At the University of North Texas Libraries, the Associate Director recognized three key elements that came together to encourage an in-house training program aimed at identifying and developing potential administrators within the existing staff. The first element was a concern about the lack of effective communication between support staff and management. The second element was a curtailment of resources which might have permitted outside training. Third, the Associate Director had received training through programs offered by the Office of Management Studies and the Library Administrators Development Program.

The library administration had identified projects which needed in-depth research and fresh insight. It was determined that task forces could work on the projects while receiving training in committee dynamics, planning, organization structure, communication, and administrative skills.

The first task force was made up of five members which included three junior librarians, a classified staff member, and the Associate Director as facilitator/liaison. The task force was charged with reviewing the projected budget and making recommendations for reducing the maintenance and operating costs. (See Charge 1) The group worked primarily individually and in small groups. Sixteen recommendations were submitted. The administration utilized some aspect of all but three of the recommendations.

The second task force was again made up of five participants including four junior librarians and the Associate Director, who served as trainer/evaluator. This task force was charged with reviewing library departmental goals and objectives and equipment requests in light of the university's goals and the new library mission statement. (See Charge 2) The task force was asked to unify the goals into library-wide goals and recommend three with the highest priority. This group worked together and in close conjunction with the Associate Director, who observed the meetings. Their recommendations served as a foundation for budget planning, an annual administrative review, and plans for an administrative retreat.

Members of the task forces were chosen for a variety of reasons. Individuals who had expressed an interest in budgetary concerns were included in that task force. Persons identified by their colleagues as facilitators or "good committee" workers were important. In both cases, there was an effort to balance the groups, including persons from a variety of areas. It was hoped that people coming from different departments and working with others whom they often did not know well would provide the opportunity to see how other units in the library functioned and to learn that it was possible to have a diversity of management styles and still function as a unit.

These task force projects served as training for less experienced librarians. The participants were able to obtain a broader perspective of library operations while gaining skills and confidence in their working relationships with peers and department heads. The projects undertaken provided training at a practical level rather than theoretical. The participants were allowed to see the impact of their work as ideas, solutions, and suggestions were implemented into library policies, operations, plans, and goals. At the same time, the Associate Director was given an opportunity to observe staff performance from individuals not normally reporting to her and was able to identify individuals who possessed abilities that could be utilized in future projects as well as individuals worthy of additional development or advancement.

With the success of the task force projects, the Associate Director and two of the participants began to investigate if other academic libraries were employing similar methods to identify and develop potential library administrators.

A survey form was developed and sent to 167 academic libraries in the United States. The libraries chosen for the survey were larger research institutions employing at least twenty-five librarians. It was felt these libraries would be more likely to have programs such as the task force concept. Members of ARL made up the majority of surveyed institutions. Of the libraries surveyed, two did not meet the requirement of twenty-five librarians. Useable forms were returned by ninety-four libraries for a response rate of fifty-seven per cent.

The survey form consisted of six questions. (SEE EXAMPLE) A simple tabulation of data was performed without testing for significant difference between ARL and other institutions. The total reaponses on each question will not always balance since many respondents did not answer each question.

The first and second questions concerned the presence of in-house training programs for new librarians and programs for beginning administrators and managers. Forty-six libraries reported they had some sort of formal, in-house training program for entry level librarians. However, many of these programs were standard presentations given to all new employees regardless of rank or position. Three institutions reported they had mentor programs and two other institutions used internship programs. Forty-five libraries reported they had no such programs.

Only twenty-eight libraries indicated they had a formal or informal training program for preparing librarians for administrative or management positions. The favorite methods for such programs were administrative internships (5), workshops provided by the parent institution (4), and two libraries used programs by their staff development committees. The remaining libraries reported having no such program.

Question three was an extention of the concern for preparing librarians to be administrators and managers. The libraries were asked if they had any cooperative agreements with schools of library and information sciences or similar type agencies to provide such training. Only twelve libraries reported having such an agreement. Of the twelve, six reported working with their campus personnel office. Various ARL and internship programs were also mentioned as ways of preparing individuals for these positions.

The fourth question was concerned with how the libraries identified and utilized the talents of potential administrators and managers. Nearly every library reported using some method or methods for accomplishing this task. The most popular method was committee work (38). Other means mentioned included performance evaluations (18), special projects (13), task forces (8), observation (8), and acting administrator positions (6). One library reported the director employed a rotating assistant.

In question five, most institutions indicated they provided some sort of assistance to their staff members to acquire skills outside the work place. Methods reported included providing travel funds (21), participation at Office of Management Studies presentations (21), release time (17), workshops (10), and tuition assistance (5). Five libraries indicated they gave no such assistance.

A majority of the respondents (65) indicated they perceived value in an in-house training program to prepare librarians for administrative or managerial positions. Individual respondents cited the responsibility to the profession to develop one's own staff. Others favored the need for this type of practical or hands-on training. One writer even stressed the concept of providing a broader picture of the organization. Another indicated this type of program would provide librarians with skills to meet the challenges of the profession.

Those not in favor of such programs cited the high cost in time and the absence of outside stimulus to the organization. Other criticisms involved the lack of opportunity to apply these skills once learned and the negative effect of building expectations for advancement when no positions were available within the organization.

It is difficult to find much literature on this topic. To paraphrase a writer of the 1970s, this subject is largely neglected.[2] Recently, more attention has been paid to the subject of identifying and especially training new library administrators and managers.

One of the more ambitious systems is the use of assessment centers. Assessment center methods in conjunction with traditional search procedures can be used to select individuals with potential to be administrators.[3] Such centers can simulate real life situations and help in the identification and selection of administrative personnel. The University of Washington's Career Development and Assessment Center for Librarians serves as an example.

Other methods described in the literature involved the use of preceptorship training at the University of Oklahoma's Health Sciences Center,[5] rotation of chairpersons at Dickinson College,[6] the University of Toledo's library's approach to continuing education through "blue sky" planning sessions, monthly "journal club" meetings, workshops, seminars, and the like,[7] and the internship program at the University of Illinois, Chicago, Northwestern University, and the University of Chicago libraries.[8]

This type of program must have the commitment of the library's administration. These administrators must be willing to serve as role models, mentors, trainers, cheerleaders, and generals. This commitment requires time, money, and long-range planning.

The risks of such programs are considerable. The expense in time, effort, and resources can be enormous. In tight budget times, it might be more advantageous to train several librarians in-house than to send only one or none to a far-away conference or workshop.[9] A library can make no promises about the future to the participants in such programs. Nor can the library expect the participants to make long-term commitments to the institution. The alternative may be to take an untrained individual and hope the person can be an administrator.

From the viewpoint of the administrator who established the program at North Texas, the value of such programs comes from having a pool of up-and-coming young people with above average exposure to administrative processes and skills. These individuals can help other members of the organization understand and accept the limitations all organizations must face. Experienced staff members can be given special assignments outside their immediate routines. Individuals groomed for administrative positions within the institution will be attractive to other organizations. This improves the individual's sense of self-worth and could provide for early advancement. Individuals who receive special nurturing tend to feel more involved in the organization and to have more of a stake in the decision-making process. Organizations with good reputations as training environments broaden their recruitment opportunities. The training process also provides for a non-threatening environment within which to review the routines and procedures of the institution. This can also be a learning experience for the trainer as well as the trainees.

Participants in the North Texas program benefited by obtaining a greater knowledge of library operations and gaining expertise to further one's own career. It also provided an opportunity to demonstrate to a higher-level of authority one's potential within the organization.

All training programs are an investment. This investment is in an individual and in the organization. The experience at the University of North Texas Libraries and the comments of the respondents to the survey indicate the value of such a program.

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CHARGE 1

Review the projected budget figures for the 1986/87 year; recommend reductions in maintenance and operations; and re-examine the student wage budget for possible salary savings.

CHARGE 2

Review the goals and objectives submitted by the library department heads with the purpose of unifying them into a listing of library-wide goals. Select three of the goals as the most important to serve as a focus. Rank in priority order recommendations for equipment requests and personnel requests based upon the proposed goals.

SURVEY: IN-HOUSE ADMINISTRATIVE TRAINING PROGRAMS

1. Does your library have any type of formal, in-house training programs for entry level librarians? If yes, please describe.

2. Does your library have an in-house, formal or informal, training program for preparing librarians for administrative or managerial positions? If yes, please describe.

3. Does your library have any cooperative agreements with library schools or other agencies to provide such training? If yes, please describe program & type of agency.

4. How does your institution identify & utilize the talents of potential administrators & managers on your staff?

5. Does your library provide support for staff to acquire skills outside the institutional setting for advancement to administrative or managerial positions? If yes, please describe type & level of support.

6. What value, if any, do you see in an in-house training program to prepare librarians for administrative or managerial positions?

7. What is the administrative level (title) of person completing questionnaire?

INSTITUTIONAL RESPONSES TO CAREER PLATEAUS

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Abstract. Two types of career plateaus have been identified: structural plateaus which occur when advancement ceases and content plateaus which occur when learning ceases. There are alternatives to hierarchical advancement and intellectual stagnation. This paper describes opportunities and structures utilized in a medium-sized ARL library that lessen the negative effects of plateaus. They include sabbatical leave, joint appointment, term appointment positions, and distributed decision-making. Advantages and disadvantages of these alternatives for both the individual and the organization are identified.

Keywords and Phrases. Academic librarians. Career development. Plateaus.

INTRODUCTION

In geography, a plateau is a high region of level land with little texture; in career development, a plateau is a period of stability with little challenge. Two articles have documented the existence of career plateaus in librarianship. A study of ALA members reported in American Libraries concluded that "career satisfaction for substantial numbers of librarians in the 1980s will have to take place in existing jobs."[1] Rothstein adopted colorful metaphors--"the bulge in the boa" and "tired blood"--to describe the stability and homogeneity he found among librarians in three Canadian academic libraries. [2]

Judith Bardwick has identified two types of plateaus in organizations. Structural plateaus occur when promotions end; content plateaus occur when learning ends.[3] Structural plateaus are a consequence of pyramidal organizations. Although the impact of structural plateauing may be modified in flatter organizations, it cannot be eliminated. Demographic and economic conditions, as well as organizational design, shape these plateaus. This paper focuses on responses which affect the content of positions rather than on responses which change the structure of the organization.

Content plateaus occur when responsibilities appear to have been mastered and there seems to be little to learn; everything is treated as repetitive. Unlike structural plateauing, content plateauing can be avoided. Learning is the major antidote to content plateauing because it enables one to undertake new tasks and because developing additional competencies is itself a positive experience.

Bardwick confirmed the conclusion of the ALA sponsored study that most professionals will need to "find some workable compromise in the reality of their opportunities and responsibilities," and her recommendations focused on change in organizations. Rothstein proposed job rotation and job enlargement as remedies. Among the alternatives to the vertical upward climb identified by Kaye [4] were: dual ladders, lateral moves, downward shifts or realignment, and job enrichment (which is distinct from job enlargement). Comes suggested these and other alternatives to hierarchical advancement such as networking, mentoring and educational opportunities.[5] Organizational structures and values can either constrain or support the plateaued librarian.

The individual is as important as the organization in reshaping plateaus. Without individual effort and risk-taking, organizational responses are hollow structures. New responsibilities that have not been previously mastered involve the possibility of failure. For some professionals the risk of change will outweigh the potential of new opportunities. They welcome the security of mastered responsibilities and the absence of uncertainty. Since for them the plateau is neither boring nor frustrating, there is no effort to move from it.

YORK UNIVERSITY LIBRARIES

Librarians at York University match the middle-aged, long-serving, and immobile norm sketched by Rothstein's study. The average years of experience of York professional staff, as reported in the 1987 ARL Annual Salary Survey, was 17.3 years. Just seven ARL university libraries had a higher average. However, in the past decade York librarians have developed and utilized an array of responses which can help to prevent "intellectual arteriosclerosis." These opportunities and structures were not introduced in response to articulated concerns regarding career plateaus. However, their combined effect is to reduce the likelihood of boredom and frustration. The York experience may suggest solutions, and allay some skepticism, at other libraries.

SABBATICAL LEAVE

The three most important motivators for librarians in the ALA study were challenging/varied work, the opportunity for growth/advancement and independence/ autonomy. Well-designed and carried-out sabbatical leaves can contribute to the achievement of all three of these goals. Librarians are members of the York University Faculty Association (a certified union) and entitled to sabbatical leave which "is intended to promote high levels of scholarly and professional activity by employees through sustained periods of concentrated study, contemplation and creative work, and through the extension of the range of contacts of employees to other people, places, experiences, and ideas."[6]

Six month leaves are at full salary and twelve month leaves are currently at 80% salary. Librarians are normally eligible for sabbatical leave every seventh year. Three-fourths of the eligible librarians have taken sabbatical leave since 1978. As of January 1988, forty-one leaves and twenty-nine different projects had been approved. Some librarians have undertaken joint projects and a few have continued the same project through two leaves.

The majority of projects have been indexes, bibliographies and bibliographic guides. Three sabbatical leaves have been spent working in other university libraries; for example, a librarian at the bilingual campus worked at the University of Bordeaux and a law cataloguer worked as a reference librarian at another law library. Other leaves have been devoted to a variety of professional or academic studies--online searching, local history, project management. Some projects are still in progress; a few were found to be impractical and have been abandoned.

Sabbatical leaves provide the opportunity for learning and growth which are the major antidote to the plateaued condition. Most librarians have undertaken projects which enable them to exploit and extend existing expertise, but a few have chosen to develop knowledge in a new area. Many sabbatical projects have required the development of writing, organizational and negotiation abilities. Several large projects have provided the opportunity to develop administrative and project management competence as well as substantive knowledge. The development of personal computer competence has been a by-product of several recent projects.

Seven books and several articles have been published as a direct result of sabbatical leaves, and librarians have earned both tangible and intangible recognition. As their work becomes known, some librarians have been asked to provide seminars, talks, consultations. Thus the growth process can continue beyond the completion of a leave.

Sabbatical leaves for librarians were introduced at York during a long period of staff attrition. A variety of methods enable the Libraries to manage the absence of five to ten per cent of the librarians each year. Librarians almost always schedule leaves to cause the least organizational disruption, but inevitably some services and programs have been temporarily reduced during sabbaticals. Responsibilities are generally shared by other members of the leave-holder's department. In a relatively stable environment such pro tem assignments have provided an opportunity to utilize professional abilities in additional roles. Several librarians have served as acting department heads, thus obtaining a perspective on library administration. Some librarians have accepted (un-compensated) overload responsibilities. On occasion, limited term appointments have been made. These appointments permit library services to be maintained and also bring, albeit temporarily, new staff with different perspectives to the Libraries.

JOINT APPOINTMENT

Many terms are used to describe joint-appointments or multiple-role positions; job enlargement, secondment, matrix positions. The terminology is less important than the reality of facilitating the development and exercise of additional abilities. The number of librarians at York with responsibilities in two departments is gradually increasing. Examples are a reference librarian working two-fifths time in archives and a cataloguer working one-fifth time in bilingual reference.

Joint appointments are an opportunity for mid-career librarians to develop and utilize new knowledge and abilities. In addition to the benefit of individual renewal, organizations can be enriched by these arrangements. Successful joint appointments create a broader perspective and greater organizational knowledge. Organizational flexibility is increased when librarians can serve in two departments.

There are potential dangers as well as potential benefits in joint appointments. An individual may seek to camouflage lack of performance, particularly if neither department head is seen as responsible. Responsibilities in the "other" unit can become a rationale for failure to perform in either department. The organization may misuse joint appointments by seeking to fill two positions for the price of one.

TERM APPOINTMENT

Four department head positions in the York libraries are term appointments; incumbents are normally reviewed after five years and may be reappointed. In the past decade, three incumbents have been reviewed and reappointed. Also in the past decade the head of each of these departments has either not sought reappointment for an additional term or has resigned before the end of a term. All four librarians have remained in the Libraries: two in the department which they headed, one in a joint appointment including the original department, one in a joint appointment not including the original department. In one instance, after leaving a department head position, a librarian was appointed head of another department several years later.

Term appointments, like joint appointments, have both individual and organizational benefits. They enable individuals who set aside administrative responsibilities to develop new interests. One former department head is playing a key role in implementation of a staff development program. The vacancies which are created provide the opportunity for other librarians to fulfill administrative positions. Structural plateaus continue to occur, but the duration may be shorter.

Movement in and out of administrative positions in the York University Libraries is facilitated because rank (assistant, associate or senior librarian), which is collegially determined, is independent of position. Department head positions with term appointment carry a very modest administrative stipend.

Term appointments are not a panacea and have their downside. The review process can be threatening for the incumbent and divisive for the department. Individual choices about whether or not to seek reappointment may not match departmental or organizational desires. The review, and if necessary, the appointment process are time-consuming.

OTHER

Educational leave and reduced load are other options which are utilized by librarians at York to avoid the plateau syndrome. Faculty members and librarians may apply for educational leave; the individual's salary continues and the Libraries receive funds for a partial replacement position. Librarians have studied languages in Quebec, France and Germany. Reduced load arrangements permit librarians to reduce the number of hours worked for a pro rated salary with maintenance of other benefits. They have most commonly been used to fulfill parental responsibilities, but have also enabled librarians to maintain and extend interests outside the York libraries.

Funds are available to support the pursuit of professional development and research. All librarians are entitled to a non-taxable professional expense allowance each year; it is currently $400. The Libraries' conference travel fund generally provides $500 to $1000 to those who apply for support. There is also a research fund in the Libraries that provides peer adjudicated grants. In addition, librarians are eligible to apply for University research and travel funds and have successfully done so.

INTERACTIVE MANAGEMENT

The decision-making and communication patterns of the Libraries also contribute to avoidance of the frustration of plateaus. Committees and task forces are used widely and constantly. They provide the opportunity to extend professional knowledge, develop leadership abilities, and influence decisions. Bardwick argues that participation in the process of making decisions is a key contribution toward the self-respect of plateaued employees. When decision-making power is distributed, there are a greater number of positions with significant responsibility and challenge. There are dangers in participation just as there are in job enlargement. Impotent or ineffective participatory mechanisms can increase the time and energy spent without increasing power or opportunity. The quality of decisions may deteriorate.

CONCLUSION

A variety of leaves, flexible appointments and distributed decision-making at York have provided an environment in which librarians can avoid the "graying" of their professional performance, if not their hair. Leaves provide the opportunity for new learning, for autonomy, for change. Joint appointments are a more permanent and generally more effective form of job rotation. Term appointments also facilitate a type of job rotation. Job enrichment occurs in joint appointments; it also occurs as a result of distributed decision-making and interactive management. The "workable compromise" is not a single solution, but a variety of responses which together create both the climate and the structures to support professional learning and growth.

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A REEXAMINATION OF THE CAREER PATTERNS OF ACADEMIC LIBRARY ADMINISTRATORS

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Abstract. A replication was conducted of a 1981 research project which identified the professional and personal characteristics associated with success in attaining a directorship in an academic library. The findings of this new research show that there have been changes in the career progression patterns of female academic library administrators and that the professional factors associated with success for men and women are now very similar.

Keywords and Phrases. Career progression patterns; Academic library administrators; Sex-discrimination in employment; Female library directors; Male library directors.

Research done in 1981 examined the career progression patterns of a group of academic library administrators in an attempt to identify the factors associated with success in attaining a directorship in an academic library.' A group of 444 individuals was identified who had held positions as either an assistant or associate library director in a four year college or university library during the academic year 1970-1971. The purpose of the research was to examine the individuals from that group who had become library directors by 1981 and to see if specific professional and personal characteristics could be identified which either contributed to or hindered individuals in attaining directors' positions.

A questionnaire was constructed which contained questions falling into three main categories: 1) questions concerning the progression of the individual's career in librarianship, 2) questions concerning professional characteristics such as advanced degrees, publications and professional activity, and 3) questions concerning personal characteristics such as age, marital status, and number of children. Each member of the population was surveyed; the final response rate was just over 72%.

The results of the research suggested that two distinct career progression patterns had existed in academic librarianship: one pattern for males and another for females. For males, the professional variables such as publications and advanced degrees were strongly associated with becoming a library director. The males who had these professional characteristics were far more likely to become directors than those who did not. However, females with advanced degrees, more publications, and greater professional activities did not become directors more frequently than the females who did not have these qualifications.

Many of the personal characteristics such as being married and having children were associated with success for the males. But, these same personal variables which many people had thought held women back from attaining top administrative posts had no relationship with success in attaining a directorship for women. Unmarried women with no children were no more likely to become directors than married women with children.

Judging from the career progression of the women in this study, the likeliest route to a directorship for a woman was found in staying in the institution where she had been an assistant or associate director and attaining a director's position by means of an internal promotion. Only one female out of 36 who had become directors in the previous study became a director of an academic library where she had not worked previously as an assistant or associate director.

Although the findings of this research were revealing, they were obviously more a reflection of the 1970s than of the 1980s. There were several reasons to believe that patterns of the 80s would be different, at least for females. Not only had affirmative action law been applied to institutions of higher education since the men and women in the first study were appointed assistant/associate directors, but also many librarians have developed a greater awareness of organizational discrimination. In addition, the general consciousness raising brought about by the women's liberation movement has led to a greater assertiveness on the part of female librarians and has caused them to seek and to achieve more administrative positions. Therefore, it was decided that a partial replication of the 1981 research would be useful. The general hypothesis for the new study was that the career progression patterns of both males and females would be more similar now than in the past.

The same basic design of the research was repeated with a few changes made to correct what in retrospect seemed to have been shortcomings in the original study. The changes made were, first, to broaden the group of individuals studied from just those holding assistant/associate directorships to include those also holding department head positions. Since some individuals move up directly from a department head position to a directorship, and, since it seemed likely based on the research of Metz that assistant and associate directors were the individuals most likely to be promoted internally, a more accurate gauge of career progression could be made if both types of positions were included.[2]

The second change made was to restrict the type of library studied. The population for the original research had been assistant and associate library directors in all four year colleges and universities, but the population for the new study was drawn just from library administrators in universities classified as Research Universities or Doctoral Granting Universities using the Carnegie Classification of Institutions of Higher Education.[3] Since the original research had shown that very few individuals moved from small institutions to large ones or vice versa, a study of a narrower population would miss very few individuals moving from a small library to the directorship of a large one while providing a more focused examination of the administrative career routes in one type of library.

The third change made was an attempt to control for the length of time people had been in a position. With the first study there had been no control of this variable since the population consisted of all individuals holding assistant and associate library directors positions in 1970/71. Some people had just assumed those positions that year, while others had been in them for years and were about to retire. For this present research, it was decided to attempt to get a cohort group to study--people who had approximately the same number of years of experience in middle management positions. Therefore, the population studied was composed of all individuals who had become either a department head or an assistant or associate library director in 1977 or 1978. The individuals were identified in two ways: 1) by reading the personal announcements in College and Research Library News for announcements of new assistant or associate directors and department heads, and 2) by using the American Library Directory as a source of new appointments to these positions. Nineteen seventy-six was used as the base year. Any new listing in the same position in the next two years, was taken to assume a new appointment to a position.

In total, 301 individuals were identified by these means and current addresses located. The entire population was mailed a survey in the spring of 1986. Two hundred and twenty-five usable responses were returned resulting in an approximately 75% return rate. Seventy-four respondents (33%) were male and 251 (67%) were female--a gender composition that is fairly representative of academic library administration.[4] As expected, there have been some major changes since the first study and it appears that the career progression routes of individuals attaining directorships in the 1980s have, indeed, been different from those who attained directorships in the 70s.

DIFFERENCES IN POPULATIONS

Before looking at the differences in the routes to the directorship, it is interesting to note the differences between the two groups of potential directors who were studied. One difference is that fewer of the more recent group have become directors. Only thirty people (about 13% of the respondents) have become directors compared to 107 (approximately one third) in 1981. This difference can be attributed to several factors. 1) First, there was an interval of only 7 to 8 years between the time the present population was promoted to an administrative position and the time it was examined instead of the 10 years that had intervened in the previous study. 2) The inclusion of department heads added a group that may have to go through 2 promotions to become a director. Interestingly enough, 53 people in the present population have subsequently been promoted from a department head to an assistant or associate director's position. They are likely to be next in line for a promotion to a directorship. 3) There may have been a decrease in turnover in director's positions in the last few years. Downs and McAnally documented the rapid turnover in directorships in large academic libraries that began in the 1960s, but it is possible that this turnover has slowed.[5] 4) Finally, the research looked only at individuals who, for the most part, are still working in the country's largest and most prestigious academic libraries. It goes without saying that it is probably easier to become a director in most small college libraries than in a large university library. So, the smaller number of directors is also a reflection of the fact that these individuals are trying for directorships in more competitive institutions.

The findings reported here then are based on a population where only a small number of individuals (n=30) have become directors. This research, however, is just the first in what is planned to be a longitudinal study of career progression patterns. This same group will be examined again in a few years and it is expected that there will be a much larger number of directors by that time.

It is interesting also to look at some of the demographic differences between the two groups studied. First of all, the individuals in the replication were younger. Both males and females averaged 48 years of age, a mean age that was 7 years younger than that of the previous population.

In terms of marital status, there was a striking change especially for the women. In the first population, 70% of the females were unmarried and nearly 50% had never been married. In this new population, 52% were presently married and only about 19% had never been married. The figures on marital status for the males were roughly similar to what had been found before. Seventy percent of them were presently married and only 15% had never been married. In the present population, as in the one studied previously, the males had slightly more children with a mean of 1.6 children to a female mean of 1.1. Forty-one percent of the population had no children at all. Only 16% had more than 2 children. The greatest number of children were reported by one respondent who had six.

The males and females had assumed their first professional library jobs on the average within a year of one another: the females at about age 28 and the males at about age 29. When one examines the age at which they assumed administrative positions, the males show a slight advantage having first become department heads at an average age of 32.7 while the women assumed that same position at 34.5. Of those who had become assistant or associate directors, men again assumed that position at an earlier age: 37.7 compared to age 40 for women. The males had an average then of 14 years in library administration, the females approximately 12 years. All of these findings relating to job experience are comparable to those reported in the previous research.

The present population is also like the previous one in that it is well educated. Among the males, 31% have a 2nd masters as their highest degree and 24% have a Ph.D. Among the women 23% have a 2nd master's degree and 8% have a Ph.D. As in the previous study, the females do not have as many advanced degrees as the males.

The number of conferences attended for both men and women was similar (a mean of 3 for males and 3.5 for females compared to a mean of 5 in 1981). The number of professional memberships held by males and females was also very close. An index was constructed to categorize each individual's activity in various professional organizations. Scores on the professional activity scale were almost identical with over half the males and females scoring at the most active level.

When the publishing variables were examined, males in this study as in the previous investigation have published more heavily. The publication pattern for both men and women is heavily skewed. Some individuals have published a large amount, and many none at all. For this reason the median number of publications is the most accurate way of comparing males and females. It was found that males published more in each of the categories studied: books, articles, chapters, and book reviews. A writing activity scale was constructed to bring together the total publication pattern. About 20% of the males were in the most active group while only 5% of the females were.

Looking at some other variables, males had made slightly more geographic moves than women (1.77 to 1.53) and had worked in a slightly larger number of libraries (2.85 to 2.62). The males and females scored almost the same on the scale that asked how easy it would be for an individual to move for a new job. The females had taken a fractionally larger number of leaves from librarianship; most of these leaves were used for pregnancy and childrearing.

An effort was made to see if males and females were applying for jobs at the same rate. The respondents were asked how many jobs they had applied for in the past five years. Males had applied for an average of 1.8, women for an average of 1.25. As might be expected, the number of applications covered a wide range. Over 56% of the respondents reported making no job applications in the last five years. Only slightly more than 5% had made 6 or more applications.

DIRECTORS

Turning now from the total population to just those individuals who become directors: of the 30, 14 were male and 16 female. These figures must be placed in the context of the gender of the respondents to the survey--33% of which were males and 67% females. These percentages would indicate that males still find it easier to achieve directorships of large academic libraries. Nineteen percent of the males in the population had become directors compared to 11 percent of the women.

The males and females who had become directors had assumed these positions at an earlier age than their counterparts in the first study. The average male in this study assumed a directorship at age 38 , the average female at age 39. (Compared to 42.5 and 50 years for the previous population). These figures would seem to indicate that the individuals who were successful in becoming directors were truly on a fast track. (Remember that the average age in this group for becoming an assistant or associate director was 37.7 for males and 40 for females.)

FACTORS ASSOCIATED WITH SUCCESS

The analysis of the personal and professional characteristics which are associated with attaining a directorship for this population was the central concern of the study. To investigate the association between the dependent variable, achieved success, and the various independent variables, multivariate cross tabulations were performed. First, the relationship between an independent variable and dependent variable was examined and then elaborated by introducing a third variable, gender. This elaboration analysis shows whether the original relationship between the independent variable being tested and success in becoming a library director still remains after controlling for gender, or if the variable affects one gender differently from the other. The chi-square (X^2) test of significance was used to determine if a systematic relationship existed between the variables. A probability level of .05 or less was required for differences to be considered significant.

The impact of the personal characteristics of the males and female directors have changed little from the 1970s to the 1980s. For instance, being married and having children is still positively associated with success in becoming a director for males. However, neither of these variables seems to have an effect on whether or not a woman becomes a director. The number of leaves taken from librarianship seems also to have no association with becoming a director for either the males or females.

It is in the professional characteristics that significant changes are found. In the first study, none of the professional variables were found to be associated with success for women, but almost all were associated with success for men. In the present research, many of these variables appear to contribute to success for both males and females. For one thing, educational level now affects both males and females. The subgroup of the population with 2nd masters and doctorates are more likely to become a director than those without the degrees. Both males and females who are active in professional activities are more likely to become directors than those who are not. Mobility now is important for both males and females, and making a number of geographic moves is positively associated with success in becoming a director. There is also a strong association for both genders between the number of libraries worked in and becoming a director. The major exception to the pattern is that a heavy publication record still seems to be more important for males than for females in becoming directors.

It is commonly thought that female directors serve as role models and mentors for other female librarians. The association between the gender of the individual's previous director and success in becoming a director was tested to see if women who had worked for female directors might be more likely to become directors than those who had worked for male directors and if the converse held true for men. That hypothesis was not substantiated. There was no association between the gender of the previous director and whether or not an individual became a director. This finding may provide some evidence to refute the claim that is sometimes heard that administrators cannot serve as mentors for individuals of the opposite sex.

Perhaps, however, the most interesting finding to come to light is that female route to success has changed. In the previous study, those women who became directors achieved these positions through promotions from within the same organizations. This pattern has completely changed. It is a startling reversal, and it is hard to account for why the change has been so drastic, but it has. Of the 16 women who became directors--all became directors as external candidates. Of the 14 male directors, 12 were external candidates and 2 were internal candidates. In the first group studied only one woman had achieved a directorship in an academic library as an external candidate while approximately 70% of the men had.

This change in progression pattern seems to be good news for women who desire directorships because it means that they will not have to wait passively in their institutions for an opening in the directorship there but can actively pursue vacant directorships outside with some expectation of success. It is also encouraging to see the greater similarity in the factors associated with success for the males and females in the study. This similarity indicates that women who pursue professional credentials such as advanced degrees, publications, and activity in professional organizations are now being rewarded for amassing such credentials.

There has recently been much anecdotal evidence which suggests that women are finding it easier to become directors in large academic libraries, including the ARL libraries where it was always hardest for women to break into the top administrative ranks. The findings of this study substantiate that evidence and indicate clearly that there have been changes in the career progression patterns of women. The planned replication of this study in five years will help to determine whether this is a long term trend or merely a short term phenomenon.

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THE EFFECT OF FINANCIAL COMPENSATION POLICY ON THE ATTITUDES OF DEPARTMENT HEAD LIBRARIANS AT THE UNIVERSITY OF CALIFORNIA

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Abstract. This paper is based on a questionnaire completed by librarians who are department heads at the nine campuses of the University of California. All members of the Librarian Series, which includes department heads, are paid on the same salary scale. The survey revealed that 68.9% of the respondents are in favor of additional financial stipends for department heads. A brief history of UC librarian salary policy is given and the answers to the questions on salary policy, job satisfaction, and personal data are analyzed. The questionnaire with results is appended.

Keywords and Phrases. Department Heads, University of California, Salaries, Financial stipends, Job satisfaction.

INTRODUCTION

This paper is based on a questionnaire mailed in 1986 to librarians who were department heads at the University of California. Its intent was to survey the opinions of department heads on the salary policy in effect at UC Libraries. There are two salary scales which apply to librarians at the nine UC campuses. One scale applies to administrators. The other scale applies to the Librarian series which covers all other librarians, including department heads.

The result of this policy is that all members of the Librarian Series are equal in terms of salary potential. Compensation is based on one's rank and step within the rank and there is no added compensation for department head or supervisory librarians. All librarians are eligible to advance to the top step of the highest rank.

This salary policy was adopted in 1973 and it coincided with a change in status of UC librarians. Due in large measure to the efforts of the Librarians Association of the University of California hereinafter referred to as (LAUC), librarians were able to upgrade their classification from staff to non-faculty academic. Prior to 1973, higher classifications in the Librarian Series were reserved for managers and salaries were based on the classification of the job with individual merit carrying less weight.[1]

From the beginning of the new salary policy, concern has been expressed about the possible inequity of not providing additional compensation for department heads. The issue has been framed in terms of whether or not additional financial stipends for department heads are justified. In 1981, a LAUC committee was appointed to review the issue. Campuses were polled and the committee recommended that no change be made in salary policy.

All UC librarians are automatically members of LAUC. Obviously, department heads do not constitute a majority of the LAUC membership. While LAUC is only an advisory body, its recommendations are influential. It is not surprising that an organization with a majority of non-supervisors would endorse the current salary policy. However, until now, the opinions of UC department heads themselves have not been known. How do they perceive their situation and what does this say about the impact of financial compensation on job satisfaction and the management of libraries?

A word about my role: as a department head at UC Davis, I am in favor of a higher salary scale for administrators, managers and supervisors than for non-supervisory librarians. While I have attempted to be as objective as possible, this should be borne in mind.

METHODOLOGY

It was determined that 133 department heads were eligible to take part in the survey. The questionnaire was mailed to them with a cover letter explaining its purpose. The letter stated that both individual responses and aggregated campus responses would remain confidential. 103 questionnaires were returned for a response rate of 77.4%, an indication of a high degree of interest in the subject.

RESULTS

On the basic question whether there should be financial stipends for department heads, 69% indicate approval of stipends by completing Section B of the questionnaire and 31% indicate disapproval.* While this result was not unexpected, it does establish objectively that there is a large majority of department heads opposed to the salary policy of UC Libraries.

There is also strong support for the current higher salary scale for administrative librarians: 81% in favor, 11% opposed.

Typical arguments at UC against stipends: Supervision is only one type of library specialization and it should not be considered more important than other types of specialization, such as reference, cataloging, etc.: 37% agree and 55% disagree. Higher compensation for supervisory librarians would tend to destroy

*All percentages have been rounded off.

collegiality and is inappropriate in academic libraries: 28% agree and 65% disagree. Higher salaries for supervisors might tend to attract individuals motivated primarily by financial considerations rather than by a genuine interest in supervision: 27% agree and 59% disagree.

Typical arguments at UC in favor of stipends: Supervisory librarians, like supervisors in other organizations, have greater responsibility and accountability for their operations than do non-supervisory librarians and thus deserve higher compensation: 66% agree and 28% disagree. Since department chairs in the teaching faculty mode are provided with stipends (at least at UC), it is appropriate to provide department head librarians with stipends: 65% agree and 30% disagree.

Do respondents believe that supervisory librarians, by the very nature of their positions, have increased visibility and influence and therefore have a better chance to achieve higher rank than do non-supervisors? 57% agree they do, 36% disagree and 9% have no opinion. Even those in favor of stipends agree with this hypothesis, 49%-41%. If, in fact, department heads have a edge in the attainment of higher rank, it might be a mitigating factor for the lack of stipends and it might indicate that despite policy, there exists unwritten sentiment which recognizes the important of library managers.

In 1983 UC librarians voted narrowly in favor of an exclusive bargaining agent. A majority of department heads, but not all, are excluded from the bargaining unit. Is the advent of collective bargaining an important reason to have separate salary scales for represented and non-represented librarians? Only 22% agree, 57% disagree and 20% have no opinion.

One of the major goals of the librarians' union is to ensure that equal salaries are maintained for the Librarian Series. To this end, the union reached agreement with the University on the following policy statement:

> All librarians at a given rank and step shall be paid identical salaries, in accordance with the published salary scales for the Librarian Series, regardless of the presence or absence of administrative responsibilities.[2]

Do respondents think that department heads have a higher salary scale than non-heads in the majority of academic libraries? 45% think they do, 10% think they do not, and 45% have no opinion.

UC librarians' salaries consistently rank at or near the top of librarians' salaries in North America. Respondents' opinions of salaries per se at UC libraries were predictable: 45% think they are excellent, 45% think they are good, 10% think they are average, and no one thinks they are poor. Librarians opposed to stipends are more enthusiastic about UC salaries than librarians in favor of stipends. Yet it is likely that the perception of good-to-excellent salaries is an ameliorating factor for some department heads for the lack of stipends.

Job Satisfaction

How do respondents rate their level of salary satisfaction on a scale of 1 (least satisfied) to 10 (most satisfied)? The combined average is 6.83. There is a significant difference between librarians in favor of stipends--a 6.18 average--and librarians opposed to stipends--an 8.25 average.

How do respondents rate their overall job satisfaction level on the same scale? The combined average is 6.99. Those in favor of stipends have a lower job satisfaction average--6.86--than those opposed to stipends--7.28. Interestingly, the opponents of stipends are more pleased with salaries--8.25--than with the job--7.28--while proponents of stipends are more satisfied with the job--6.86--than with salaries--6.18.

Stipends

Supporters of stipends are almost equally split on whether stipends should be based on the number of employees supervised, with supervisors of larger units receiving larger stipends. Thirty-one agree, thirty-two disagree and 8 are undecided. If all department heads receive the same stipend, what would be a fair amount? There was a plurality for between $2,000-5,000 per year.

What are the chances of achieving stipends at UC in the near future? 52% believe that it is "unlikely." 27% believe it is "possible," only one respondent thinks the chances are "good" while 20% have no opinion. What methods, if any, should those in favor of stipends pursue in attempting to win their acceptance? Multiple answers were allowed. 72% checked "petition campus and systemwide Library Administration." 50% checked "submit the issue for reconsideration to LAUC." Slightly less than 50% checked "form a UC supervisors organization to lobby for stipends." Those in favor of stipends were asked how likely they would be to join an organized effort to work for stipends. There were 69 responses: 31 "likely," 30 "unsure," and 7 "unlikely."

Personal Data

Data was gathered to analyze opinions about stipends by types of department heads.

Those in favor of stipends were most likely to be:

1. Head of a large department.
2. Excluded from collective bargaining.
3. A UC library department head for 5 years or less: which may be explained by a stronger identification with UC

policies on the part of department heads with longer tenure.

4. A department head at another library before coming to UC. Again, this is an indication that department heads with less personal identification with UC are more likely to support stipends.

5. Concerned about financial considerations in making future career plans: 56% of all respondents said that financial considerations were important or very important in deciding their career plans: of this group, 76% supported stipends. 44% rated financial considerations as not very important or no factor in career plans: of this group, 58% supported stipends.

In only two personal data categories were there a majority opposition to stipends: department heads who supervise fewer than five employees oppose stipends 9-7 and department heads for whom financial considerations are no factor oppose stipends 7-5.

Concerning future career plans, two-thirds are planning to remain in their present position and they support stipends 43-27. Eighteen respondents plan to become library administrators, 14 plan to leave librarianship, and 5 plan to step down from department headship to a non-supervisory position. Those respondents not planning to stay in their current job support stipends much more strongly--32-5.

Only 5 respondents plan to "step down" from managing (all 5 support stipends). This may indicate that the lack of stipends has not resulted in significant difficulty in the retention of department heads at UC.

CONCLUSION

This questionnaire has determined that more than two out of three department head librarians who completed it are in favor of financial stipends in addition to regular salaries for department heads at the University of California. Additional voluntary comments were received from 33 respondents. The comments reflected the intensity of feelings about this subject from both supporters and opponents of stipends.

It may be a matter of concern to library administrators when widespread opposition to salary policy exists among middle managers. This may be especially true when, as at UC, department heads who view salary policy as inequitable express a lower level of overall job satisfaction than do their colleaques who are satisfied with the status quo.

On the other hand, there are factors at UC which may serve to ameliorate salary policy dissatisfaction. One is the good-to-excellent rating given to librarian salaries at UC. Another is the opinion of the majority that supervisory librarians have a better chance to attain a higher rank, and thus higher salary, by the very nature of their positions than do their non-supervisory peers.

Although there appear to be major stumbling blocks to the attainment of a salary differential for department heads at UC, there is a fairly high level of interest among supporters of stipends in pursuing this issue. Coupled with the finding that 56% of all respondents view salaries as important or very important in their career plans, this survey does not support the belief that librarians are necessarily less motivated by financial rewards than other groups.

In a larger perspective, the survey raises questions about the role of salaries in academic libraries. What is an appropriate salary policy for a hierarchical institution in an academic setting? How does salary policy affect job performance, staff morale, and staff interrelationships? The answers to these questions may be of importance to the profession. Articles on perceived low salaries in librarianship and the consequences of this factor are commonplace. This survey suggests that there is more to be studied in the area of librarian compensation than salaries per se.

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APPENDIX
UNIVERSITY OF CALIFORNIA DEPARTMENT HEAD LIBRARIAN QUESTIONNAIRE

1. In the University of California Libraries there is a single salary scale for all members of the Librarian series. What is your opinion of this policy:

   A. Strongly approve: 19 B. Approve: 25
   C. No opinion: 6 D. Disapprove: 24
   E. Strongly disapprove: 26

2. In the University of California Libraries, members of the Assistant/Associate University Librarian series (AULs) have a separate and higher salary scale than do members of the Librarian series. What is your opinion of this policy?

   A. Strongly approve: 18 B. Approve: 65
   C. No opinion: 9 D. Disapprove: 8
   E. Strongly disapprove: 3

3. The single salary scale for the Librarian series is sometimes referred to as the "two-track" system. This viewpoint considers supervision to be only one type of library specialization which should not be considered more important than other types of specialization such as cataloging, reference, etc. What is your opinion of this argument?

A. Strongly agree: 15 B. Agree: 23
C. No opinion: 6 D. Disagree: 26
E. Strongly disagree: 31

4. Do you believe that supervisory librarians, like supervisors in other organizations, have greater responsibility and accountability for their operations than do non-supervisory librarians and should receive higher compensation?

A. Strongly agree: 43 B. Agree: 25
C. No opinion: 2 D. Disagree: 20
E. Strongly disagree: 9

5. Do you believe that providing higher compensation for supervisory librarians would tend to destroy collegiality and is appropriate in academic libraries?

A. Strongly agree: 9 B. Agree: 20
C. No opinion: 5 D. Disagree: 44
E. Strongly disagree: 23

6. Do you agree with the argument that in the teaching faculty situation, department chairs are provided with stipends; thus, stipends for department head librarians are appropriate?

A. Strongly agree: 38 B. Agree: 29
C. No opinion: 5 D. Disagree: 24
E. Strongly disagree: 7

7. Do you believe that more compensation for supervisory librarians might tend to attract persons motivated primarily by financial considerations instead of persons genuinely interested in supervision?

A. Strongly agree: 5 B. Agree: 23
C. No opinion: 14 D. Disagree: 47
E. Strongly disagree: 14

8. Do you believe that supervisory librarians, by the very nature of their positions, have increased visibility and influence and therefore have a better chance to achieve a higher rank than do non-supervisory librarians?

A. Strongly agree: 7 B. Agree: 52
C. No opinion: 9 D. Disagree: 28
E. Strongly disagree: 6

9. Do you believe that since LAUC is on record as opposing "stipends" for department head librarians, it is important not to change the current compensation policy?

A. Strongly agree: 9 B. Agree: 11
C. No opinion: 15 D. Disagree: 30
E. Strongly disagree: 37

10. Do you believe that since the University of California Libraries now engage in collective bargaining, it is important to have separate salary scales distinguishing librarians not represented by the union?

A. Strongly agree: 11 B. Agree: 12
C. No opinion: 20 D. Disagree: 34
E. Strongly disagree: 25

11. On my campus, most department head librarians are:

A. Members of the collective bargaining unit: 11 B. Not represented: 72
C. Don't know: 18

12. Do you believe that in the majority of academic libraries, department head librarians are compensated on a higher salary scale than non-department head librarians?

A. Yes: 46 B. No: 10 No opinion: 47

13. What is your opinion of salaries, in general, of University of California librarians:

A. Excellent: 46 B. Good: 46
C. Average: 10 D. Poor: 0

14. Considering only the issue of your salary as a department head on your level of job satisfaction, how would you rate your satisfaction level (on a scale of 1--least satisfied to 10--most satisfied)?

Most satisfied 10 9 8 7 6
Least satisfied 5 4 3 2 1 Average: 6.83

15. Considering all the issues of your position as a department head on your level of job satisfaction, how would you rate your satisfaction level (on a scale of 1--least satisfied to 10--most satisfied)?

Most satisfied 10 9 8 7 6
Least satisfied 5 4 3 2 1 Average: 6.99

SECTION B
THE FOLLOWING QUESTIONS TO BE ANSWERED ONLY BY THOSE RESPONDENTS WHO ARE IN FAVOR OF STIPENDS (OTHERS PLEASE TURN TO SECTION C)

Note: 69% of the respondents completed this section.

16. I am in favor of stipends for the following types of librarians:

A. Department Heads only: 29
B. Department Heads and Supervisors of Librarians: 12 C. Department Heads and Supervisors of Librarians or Library Assistants: 23 D. Other (Please specify): 7

17. Do you believe that stipends for Department Heads should be larger than stipends for other supervisory librarians:

A. Yes: 50 B. No: 9 C. Undecided: 8

18. Do you believe that stipends should be based on the number of employees supervised, with supervisors of larger units receiving larger stipends?

A. Yes: 31 B. No: 32 C. Undecided: 8

19. Considering only Department Heads, and assuming all receive the same stipend, I believe a fair stipend would be in the range of:

A. $500 or less: 1 B. $500-1000: 5
C. $1000-2000: 19 D. $2000-4999 27
E. $5000 or more: 13

20. Considering only supervisory librarians who are not department heads, and assuming all receive the same stipend, I believe a fair stipend would be in the range of:

A. $500 or less: 5 B. $500-1000: 20
C. $1000-2000: 23 D. $2000-4999: 11
E. $5000 or more: 2

21. Do you believe that chances for achieving stipends for supervisory librarians at UC in the near future are:

A. Good: 1 B. Possible: 19
C. Unlikely: 37 D. No opinion: 14

22. What methods, if any, do you believe those in favor of stipends should pursue in attempting to win acceptance of stipends at UC? (Check all that apply).

A. 51 Petition campus and systemwide Library administration.
B. 36 Submit the issue for reconsideration to LAUC
C. 35 Form a UC supervisors organization to lobby for stipends.
D. 1 None of the above.
E. 7 Other (Please specify)

23. How likely would you be to join in an organized effort to work for stipends for supervisors?

A. Likely: 31 B. Unlikely: 7
C. Unsure: 30

SECTION C
--PERSONAL DATA--
TO BE ANSWERED BY ALL RESPONDENTS

24. I supervise, directly, or indirectly:

A. Less than 5 employees: 16
B. 5-10 employees: 23
C. 10-20 employees: 24
D. 20-30 employees: 19
E. Over 30 employees: 21

25. I am:

A. Excluded from the collective bargaining unit: 76
B. Included in the collective bargaining unit: 27

26. I have been a department head librarian at the University of California for:

A. Less than 3 years: 18
B. 3-5 years: 18
C. 6-10 years: 27
D. 11-15 years: 18
E. 16 or more years: 22

27. My first department head librarian position was at the University of California:

A. Yes: 66 B. No: 37

28. My future career plans are:

A. To go into library administration: 18
B. To remain in my present position: 70
C. To step down from supervision: 5
D. To leave librarianship: 14

29. How important are financial considerations in your answer to question 28?

A. Very important: 11
B. Important: 44
C. Not very important: 31
D. No factor: 12

COMMENTS: COMMENTS WERE RECEIVED FROM 33 RESPONDENTS.

VIII.
PRESERVATION/ SPECIAL COLLECTIONS

"SELECTION FOR PRESERVATION": APPLICATIONS FOR COLLEGE LIBRARIES

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Abstract. This study tests the applicability to college libraries of Ross Atkinson's three-part typology for preservation selection (as modified by Margaret Child). Atkinson's typology was applied to Franklin and Marshall College Library's LC class P holdings (986 titles) and a matching sample chosen by random number from the PAs. Physical condition and circulation records were noted; titles were searched in OCLC, RLIN, and NUC to determine duplication of holdings nationwide. One-third of the PAs and one-eighth of the Ps met criteria for Class 3; the data showed a clear correlation of age and language to use level and physical condition.

Keywords and Phrases. collection management, collection development, preservation, preservation selection, college libraries.

COLLECTION MANAGEMENT AND COLLEGE PRESERVATION IN COLLEGE LIBRARIES

It is safe to say that most college libraries in the United States acknowledge the need for rational, cost effective collection management programs to guide them in supporting the mission of the academic institution, however broadly or narrowly defined.[1] Most have also begun to acknowledge the need for preservation programs, although the concept is still too new and the availability of trained preservation officers still too limited for many college libraries to have functioning programs. While a few preservation programs have been established,[2] operational integration of collection management with preservation has been implemented by even fewer; indeed, many large research libraries with established preservation programs have yet to integrate the functions of the two areas.

One systematic approach to collection management which incorporates the goals and objectives of a preservation program has recently been set forth by Ross Atkinson in his article, "Selection for Preservation: A Materialistic Approach," with valuable additions from Margaret Child.[3] Working from the intrinsic and intellectual value and the pattern of use of the library's collection, Atkinson divides the materials into three classes: special, on-going research and teaching support, and low-use long-term research. Based on this classification he determines the type of preservation valid for each category.

Although the typology was envisioned for use by major research libraries, the present authors decided to test its application at the Shadek-Fackenthal Library of Franklin and Marshall College.(F&M), since so little work has been done on preservation and colletion management at smaller academic libraries.[4] The authors had two hypotheses: that the proposed three-way division of materials for preservation selection is valid for college libraries; and that college libraries, especially older ones, frequently contain substantial numbers of books which fit Atkinson's third class, research materials, and which may not be available elsewhere.

METHODOLOGY

In order to test these hypotheses the authors decided to classify titles in selected subject areas of the F&M Library according to Atkinson's typology, and to analyze their circulation records, physical condition, and the extent of holdings outside of F&M. Ideally the target population would represent a variety of call number sub-classes and a range of countries and dates of publication, and would also benefit from an "at-the-shelf" preservation decision-making process. The areas chosen were Library of Congress classes P (Linguistics) and PA (Classical Languages and Literatures). F&M has offered a Classics concentration since about 1836, and the library's holdings have been enhanced over the years through donations from faculty members and the acquisition of the Gonzalez Lodge Collection.[5] This collection was expected to affect the survey results because it consists of mostly mid- to late-nineteenth century European imprints of classical Greek and Latin texts and secondary scholarship which fall into Atkinson's class 3 designation.

Linguistics was chosen as a contrast to Classics. The college gives relatively few courses in this area, and it was anticipated that the collection would more narrowly reflect the curriculum and contain a much smaller portion of class 3 materials. Further, Linguistics is a field in which very current publications tend to be of greater interest, in contrast to Classics where nineteenth century and even earlier materials are regularly consulted. Finally, the authors' subject expertise covered both Linguistics and Classics.

300

CLASSIFICATION INTO THE PRESERVATION TYPOLOGY

It was necessary to establish criteria whereby titles could be classified within the typology. Atkinson defines materials for class 1 preservation as those having a high economic value, particularly special collections items and level-five collections. Child further includes intrinsic value, "nonmonetary but important research values deriving from artifactual characteristics which compel preservation in the original format."[6] The authors have assigned class 1 designations with both definitions in mind, using as criteria for inclusion in the class: imprint date (foreign imprints pre-1801, United States imprints pre-1860, Pennsylvania imprints pre-1900); all Lancaster County, Pennsylvania, imprints; notable first editions; editions limited to 500 or fewer; important association and signed copies; notable physical traits such as fine bindings; and particularly high monetary value.

Class 2 preservation according to Atkinson, "consists of higher use items that are currently in demonstrable demand for curriculum and research purposes."[7] Criteria used to identify these materials were: relevance of subject content to current or anticipated F&M curriculum and research areas; assignment to the reserve section for any period during 1980-1988; multiple circulations since 1980; inclusion in the reference collection; and a post-1979 purchase date. Finally, class 3 is restricted by Atkinson to lower-use research materials. Criteria used to identify these items were: long-term intellectual value; and failure to fit into class 1 or 2.

The purchase date criterion for class 2 reflects a change in the library's selection policy in 1980, after a collection development self study supervised by the Association of Research Libraries, Office of Management Studies (OMS), which aimed at a closer match between new acquisitions and current curriculum and high-use subject areas. The authors were looking for different use patterns in titles acquired before and after the OMS study, since any identifiable distinctions would have implications for collection management.

DETERMINATION OF PHYSICAL CONDITION

In order to maintain a consistent record of the books' physical condition, the authors made use of the definitions and criteria established for the Yale University Library preservation survey of 1979-1982.[8] The categories employed at F&M were: protection non-functional, paper brittle, text not intact, leaf attachment not intact, text mutilated, and environmental damage. Criteria were applied in the strictest sense. For instance, in order to be considered non-functional, a book's cover had to be entirely or almost entirely detached, and paper was considered brittle after two double folds.

CONDUCTING THE SURVEY

In order to obtain a comprehensive understanding of the collection, the authors surveyed all 986 P titles owned by F&M, and matched them with an equal sample from the larger PA class using a random number table. The shelflist card for each title was photocopied onto a worksheet (see Appendix). Of the 1972 titles selected for the survey, 44 (43 from P and 1 from PA) were currently circulating and could not be examined for physical condition. A further 37 (10 from P and 27 from PA) were not on the shelf, not charged out, and could not be located during the period of the study, leaving a total 1935 titles to be surveyed. Of these 976 were from P and 959 were from PA.

Each title, including all volumes and duplicate copies, was inspected for physical condition. The authors noted purchase date and membership in the Lodge Collection, and recorded the number of uses between 1980 and 1988. These include circulations, reserve uses, and interlibrary loan uses; in-house uses could not be traced. Each title was then classified according to the typology. Any which fell into class 3 were searched in the OCLC (Online Computer Library Center) and RLIN (Research Libraries Information Network) databases, and in the National Union Catalog Pre-1956 Imprints in order to gain an idea of how many other libraries own these titles. The collected data were analysed using the SAS statistical package.

RESULTS

The results reveal a correlation of the three data elements age/Lodge ownership/language versus use. A second correlation exists between age/Lodge ownership and physical condition. Thus, P proves on the whole to be a young collection: 87.7% of the titles were published since 1950, 31.6% since 1980, and almost half acquired since the OMS study; it is primarily an English-language collection (87.3%); and very few of its titles (24 in all) are part of the Lodge Collection (see Table 1; tables are located at the end of text). Its level of use 1980-1988, as shown in Table 2, was relatively high (50.9% used at least once) and its physical condition good (only 8.4% show damage; see Table 3).

Conversely, the PAs are older, with 58.1% of the titles published before 1950 and a mere 15% acquired after the OMS study; only 65.5% of the titles are in English; and fully 90.3% of the 249 Lodge titles fall into PA. The use level for PA was low, with only 35.9% having been used at least once 1980-1988, and, as can be predicted from the publishing dates, the PAs include a higher incidence (40.5%) of brittle paper.

Given all of the above, it is not surprising that 87.6% of the Ps proved to be Atkinson class 2, while over one third of the PAs were Atkinson class 3. The Atkinson classes present very distinct profiles supporting the correlations stated above (see Tables 4-6). A collection of materials for current curriculum and research, class 2 is predominantly English-language (87.4%) and relatively new (82.6% published since 1950, 28.1% since 1980); it contains 99.2% of all titles added since the OMS study. The class 3 long-term research materials are only 42.7% English-language and are much older, 82.9% were published between 1850 and 1950. Over 99% of class 3 titles were acquired before the OMS study and 41.7% are Lodge Collection members.

Significantly, 95.2% of class 3 had not been used 1980-1988, while 56.3% of class 2 had been used at least once. The physical condition of the two classes also constrasts clearly. Only 9.6% of class 2 titles have brittle paper and 1.4% have other physical damage, mostly the results of heavy use. This compares to a brittle paper level of 67.0% for class 3 and 6.0% other damage, primarily environmental. In sum, class 3 is older and contains the bulk of foreign-language, in-depth research material, i.e. Lodge Collection material. As a result, it receives low use. A further correlate of its age is poor physical condition, for the most part brittle paper.

CONCLUSION

It is clear that the Atkinson typology is workable. No titles were found that failed to fit into the typology and the typology suits the way the library organizes and uses its collections. The survey was not unreasonably expensive in terms of staff time. Two professionals with knowledge of the library's collection, the subject fields, the curriculum, and faculty interests were able to inspect 1900 books and make informed judgments in 36.5 hours, or slightly over one minute per title on average.

While a library might hesitate to inspect every book, certainly many collection management benefits arise from surveying subject areas of importance to the library. Librarians responsible for selection gain graphic knowledge of the contents of the collection, its level of use, and its physical condition. The result is, in effect, an assessment of the collection and of current selection policies, because it addresses the question of whether materials on the shelf match the needs of the college. As librarians gain a firmer knowledge of the physical condition of the collection they can predict the level of need for preservation and set priorities for rebinding and replacement based on the categorization of materials within the typology.

This raises the issue of class 3 materials. Based on the findings at F&M, it seems clear that small college libraries may have significant amounts of class 3 materials which may be of substanial research value to the scholarly community. The survey indicated that 96.5% of the F&M class 3 titles are held elsewhere; however 24.5% are held by only 5 or fewer libraries (see Table 7).

Class 3 materials face the same preservation problems in college as in research libraries, but in the context of the college library they stand out as a major aggregate of brittle books and generators of preservation expense, while falling outside of the primary declared mission of the institution to support current teaching and research. Thus, for F&M, twice as many class 3 titles were in poor condition as class 2 titles (Table 6). Use of the typology identifies these materials and makes their physical deterioration manifest. College libraries face difficult decisions in determining what priority should be given to preservation for low-use, long-term research materials which may locally be of little importance but which may well be national resources. Searching of 468 titles in both OCLC and RLIN took 1.8 hours (or 1.2 minutes per title). NUC searching took 9.5 hours, also about 1.2 minutes per title.

ACKNOWLEDGEMENTS

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REFERENCES AND NOTES

1. Subsequent research by the authors will focus on collection management, the national preservation effort and the role that college and mid-sized university libraries might play.
2. For a description of the Franklin and Marshall program see Charlotte B. Brown, "The Preservation Program at Franklin and Marshall College," Conservation Administration News no. 30 (July 1987): 6-7. The authors are aware of at least sixteen other college libraries who have begun implementing the various components of a preservation program.
3. Ross W. Atkinson, "Selection for Preservation: A Materialistic Approach," Library Resources & Technical Services 30, no. 1 (October/December 1986): 341-353. Margaret Child, "Further Thoughts on `Selection for Preservation: A Materialistic Approach'," Library Resources & Technical Services 30, no. 1 (October/ December 1986): 354-362.

The authors wish to thank Ross Átkinson for his comments on this paper; all conclusions presented here are our own.

4. Cf. Wesley L. Boomgaarden, "Preservation Planning for the Small Special Library," Special Libraries 76, no. 3 (Summer 1985): 204-211; Robert & GraceAnne A. DeCandido, "Micro-Preservation: Conserving the Small Library," Library Resources & Technical Services 29, no. 2 (April/June 1985): 151-160.

5. Gonzalez Lodge (1863-1942) was a Classics scholar who taught at Bryn Mawr College and at Teacher's College, Columbia University. It was the understanding of the F&M library when it received the collection in 1944 that it

was the understanding of the F&M library when it received the collection in 1944 that it

was acquiring Lodge's personal Classics library.

6. Child, "Further Thoughts," p. 355.

7. Atkinson, "Selection for Preservation," p. 346.

8. Gay Walker, et al., "The Yale Survey: A Large-Scale Study of Book Deterioration in the Yale University Library," College & Research Libraries 46, no. 2 (March 1985): 130.

TABLE 1
CHARACTERISTICS OF LC CLASS P AND PA

	P (total = 986)	PA (total = 986)
Atkinson Class:		
1	5 = .5%	24 = 2.4%
2	864 = 87.6%	611 = 62.0%
3	117 = 11.9%	351 = 35.6%
Lodge Collection:		
no	962 = 97.6%	761 = 77.2%
yes	24 = 2.4%	225 = 22.8%
OMS Study:		
pre-study	531 = 53.8%	837 = 85.0%
post-study	455 = 46.2%	148 = 15.0%
Publication date:		
1700-1849	3 = .3%	30 = 3.0%
1850-1899	51 = 5.2%	293 = 29.7%
1900-1949	67 = 6.8%	249 = 25.4%
1950-1979	553 = 56.1%	311 = 31.5%
1980-1988	312 = 31.6%	103 = 10.4%
Country:		
USA	581 = 59.0%	335 = 34.0%
UK, Can., Aust.	168 = 17.1%	297 = 30.1%
Germany	59 = 6.0%	233 = 23.6%
Other European	169 = 17.1%	120 = 12.2%
Other	9 = .9%	1 = .1%
Language:*		
English	860 = 87.3%	646 = 65.5%
Latin	5 = .5%	197 = 20.0%
Other European	119 = 12.1%	142 = 14.4%
Other	2 = .1%	1 = .1%

* The language recorded for editions of the works of classical authors was that of the introductory matter and notes.

TABLE 2
USES 1980-1988 PER TITLE FOR LC CLASS P AND PA

	P (total = 976)	PA (total = 959)
# of uses:		
0	479 = 49.1%	615 = 64.1%
1-5	414 = 42.4%	291 = 30.4%
6-10	35 = 3.6%	27 = 2.8%
over 10	5 = .5%	6 = .6%
circulating*	43 = 4.4%	1 = .1%
[missing data**	10	27]

* Because the book was circulating its use record could not be checked.

** Books not on shelf and not circulating

TABLE 3
PHYSICAL CONDITION OF LC CLASS P AND PA

	P (total = 933)	PA (total = 948)
General condition:		
good	855 = 91.6%	548 = 58.3%
bad*	78 = 8.4%	392 = 41.7%
Paper condition:		
good	870 = 93.2%	559 = 59.5%
brittle	63 = 6.8%	381 = 40.5%
Other physical damage:		
absent	922 = 98.8%	900 = 94.9%
present	11 = 1.2%	48 = 5.1%
[missing data**	10	27]

* A bad ranking in any one of the six categories (protection intact, paper brittle, etc.) resulted in a bad ranking for general condition.

** Books not on shelf and not circulating.

TABLE 4
CHARACTERISTICS OF ATKINSON CLASSES 1, 2, AND 3

Atkinson Class	1 (total=29) (1.5%)	2 (total=1475) (74.8%)	3 (total=468) (23.6%)
LC class:			
P	5 = 17.2%	864 = 58.6%	117 = 25.0%
PA	24 = 82.8%	611 = 41.4%	351 = 75.0%
Lodge Collection:			
no	26 = 89.7%	1424 = 96.5%	273 = 58.3%
yes	3 = 10.3%	51 = 3.5%	195 = 41.7%
OMS Study:			
pre-study	28 = 96.6%	876 = 59.3%	464 = 99.1%
post-study	1 = .4%	599 = 40.6%	4 = .9%
Publication date:			
1700-1849	12 = 41.4%	1 = .1%	20 = 4.3%
1850-1899	16 = 55.2%	60 = 4.1%	268 = 57.3%
1900-1949	1 = 3.4%	195 = 13.2%	120 = 25.6%
1950-1979	0 0	804 = 54.5%	60 = 12.8%
1980-1988	0 0	415 = 28.1%	0 0
Country:			
USA	16 = 55.2%	782 = 53.0%	118 = 25.2%
UK,Can.,Aust.	4 = 13.8%	378 = 25.6%	83 = 17.7%
Germany	7 = 24.1%	90 = 6.1%	195 = 41.7%
Other Eur.	1 = 3.4%	220 = 14.9%	68 = 14.6%
Other	1 = 3.4%	5 = .4%	4 = .8%
Language:*			
English	17 = 58.6%	1289 = 87.4%	200 = 42.7%
Latin	7 = 24.2%	53 = 3.6%	142 = 30.3%
Other Eur.	4 = 13.8%	131 = 8.9%	126 = 27.0%
Other	1 = 3.4%	2 = .1%	0 0

* The language recorded for editions of the works of classical authors was that of the introductory matter and notes.

TABLE 5
USES 1980 - 1988 PER TITLE FOR ATKINSON CLASSES 1, 2, AND 3

Atkinson Class	1 (total = 28)	2 (total = 1444)	3 (total = 463)
# of uses:			
0	21 = 75.0%	631 = 43.7%	441 = 95.2%
1-5	7 = 25.0%	677 = 46.9%	22 = 4.8%
6-10	0 0	62 = 4.3%	0 0
over 10	0 0	12 = .8%	0 0
circulating*	0 0	6 = 4.3%	0 0
[missing data**	1	31	5]

* Because the book was circulating its use record could not be checked.
** Books not on shelf and not circulating.

TABLE 6
PHYSICAL CONDITION OF ATKINSON CLASSES 1, 2, AND 3

Atkinson Class	1 (total = 28)	2 (total = 1382)	3 (total = 463)
General condition:			
good	19 = 67.9%	1231 = 89.1%	153 = 33.0%
bad*	9 = 32.1%	151 = 10.9%	310 = 67.0%
Paper condition:			
good	21 = 75.0%	1249 = 90.4%	159 = 34.3%
brittle	7 = 25.0%	133 = 9.6%	304 = 65.7%
Other physical damage:			
absent	25 = 89.3%	1362 = 98.6%	435 = 94.0%
present	3 = 10.7%	20 = 1.4%	28 = 6.0%
[missing data**	1	93	5]

* A bad ranking in any one of the six categories (protection intact, paper brittle, etc.) resulted in a bad ranking for general condition.

** Books not on shelf and not circulating.

TABLE 7
HOLDINGS OF ATKINSON CLASS 3 MATERIALS OUTSIDE F&M
(BASED ON RECORDS IN OCLC, RLIN, AND NUC PRE-1956)

# of other libraries owning the title:	P (total = 117)	PA (total = 351)	Combined (total = 468)
0	2 = 1.7%	14 = 4.0%	16 = 3.4%
1-5	17 = 14.5%	82 = 23.4%	99 = 21.2%
6-10	11 = 9.4%	83 = 23.6%	94 = 20.1%
over 10	87 = 82.9%	172 = 49.0%	259 = 55.3%

NETWORKING FOR DISASTER PREPAREDNESS & RECOVERY

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Abstract. This paper proposes that major academic and public libraries form networks with other libraries in their regions to provide mutual disaster aid.

Even a minor disaster can seriously disrupt the important day-to-day activities of a library. The author asserts that establishing a cooperative network is one of the most efficient ways libraries can prepare for a disaster. It is argued that such cooperation saves the network members money, time, and effort and expands each library's ability to respond to and recover from a disaster. This paper is based on the writer's experience inaugurating such a network.

Keywords and Phrases. Disaster Preparedness, Disaster Response, Disaster Recovery, Networks, Networking, Mutual Aid, Disaster Personnel, Disaster Officers.

If we have learned one lesson from the past, it is that the possibility of a disaster striking a library should not be ignored. Fires, floods and earthquakes can hit anywhere at any time, as evidenced by the devastating fires at the Los Angeles Central Library and other recent events. When a disaster is of significant scope, the affected library will probably be unable to handle it alone. By using past and present models of networking, however, libraries can help each other prepare for and cope with disasters.

This paper proposes that major academic and public libraries form networks with other libraries in their regions to provide mutual disaster aid. It is based on the author's experience inaugurating the Inland Empire Libraries Disaster Response Network (IELDRN), composed of libraries in Riverside, San Bernardino, and eastern Los Angeles counties of California.

Multi-agency cooperation for mutual benefit is far from a new idea. Most libraries belong to some type of network -- for interlibrary loan, for example. In the area of disaster intervention, a pioneering effort has already been made by state and regional conservation centers. In addition to their conservation activities -- bookbinding, microfilming, consultation, etc. -- most of these centers offer assistance during crises. In most cases, advice is given over the telephone. Some will send representatives out to the site of a major disaster; others hold workshops and have produced handouts, workbooks, and audiovisual aids.

It is time to take this preliminary blueprint for disaster preparedness and flesh it out into something more comprehensive. Some organizations have begun to apply the lessons learned from mutual cooperation to this new area. A few states, such as Florida and New York, have held workshops to help libraries prepare for disaster. In California, two networks have begun to cooperate on a much more extensive basis. The Los Angeles Preservation Network (LAPNet) and IELDRN have been in existence for almost two years. IELDRN has completed two workshops and has a third planned for this fall. It has received LSCA grant funds from the State Library. The Network libraries are negotiating a mutual aid agreement spelling out the rights and responsibilities of each member. In addition, IELDRN is planning to purchase disaster supplies to be stored in two regional locations and made available to any member as needed.

Even a minor disaster can seriously disrupt the important day-to-day activities of a library. It demands staff time and drains resources. A major crisis magnifies this impact geometrically. Yet even with this sort of threat looming, disaster preparation, in practice, usually takes last place in budget and planning efforts. Unfortunately, most money and resources are allocated after the fact. When a fire or flood hits, suddenly funds can be found for fire suppression systems, fixing inadequate plumbing and correcting structural defects. Funding for training, supplies and equipment can be had for the asking. But by then it is too late for the books that went up in flames, or those invaded by mildew as a result of too much moisture.

A cooperative network is one of the most efficient strategies for maximizing library strengths before a disaster occurs. Networks vastly improve each library's ability to respond to and recover from disasters, while saving members time, money, and effort. Once a network is activated, benefits can multiply across the board. For instance, an individual library's legwork is significantly reduced. Committees take over the task of locating vendors for supplies, freezer storage and emergency equipment, updating and revising the plans as required.

The network can develop supplier lists and make agreements with local suppliers for items that cannot be stocked by individual libraries but would be needed during salvage efforts, such as porta-johns, fork lifts, food and water, as well as freezers and freeze-dry facilities. While each library is responsible for maintaining a cache of basic emergency supplies such as plastic sheeting, boxes, mops, flashlights, few libraries have the space for on-site storage of enough supplies to cope with a major disaster. Even if space were available, in an emergency of great magnitude supplies stored on-site might either be inaccessible or damaged.

Members would probably be able to get group rates on purchases of supplies. The costs of certain pieces of equipment can be shared, eliminating some duplication and allowing access to expensive equipment a library otherwise would not be able to afford. For example, a library in Southern California would be hard pressed to justify the expense of a dehumidifier or moisture content reader. But following water damage, both can be indispensable.

Granting agencies strongly approve of this kind of cooperation. Therefore, chances of getting funds are excellent and the grant-writing process becomes another one of the committee's jobs. These funds can be used to pay for supplies, equipment, workshops, and many other costs -- further reducing the expenses of the network members.

A major goal of a regional network should be to develop a corps of local expertise -- one that could be called upon by an institution to supplement its own staff. The keystone in this program element is providing for the training of each institution's disaster officer. To acquire the expertise they need, disaster officers should attend workshops and do extensive reading on the subject. Experts in the field are available to give more specialized training. This will create a set of regional experts to assist network libraries as well as their own during a disaster.

However, it is a mistake to make one person in each institution the sole repository of this knowledge. Training as many staff members as possible significantly increases the speed with which a library will react and recover. Famil- iarity with the required steps, and with techniques of packing, removing and drying wet materials, is vital. Trained and confident staff will save needless loss of time and prevent panic in an emergency.

Almost every library participates in a network of some sort -- most likely for shared cataloging or interlibrary loan. Achieving such cooperation is difficult; networks do not spring up and start func- tioning overnight. One major problem is getting the major libraries involved and committed. "Spreading the word" can be difficult. IELDRN was fortunate that the Inland Empire already had an extensive network developed for reference and interlibrary loans. The director of this network was invited to sit on the steering committee. Through such channels the network can reach many more libraries. The IELDRN steering committee has members from ten libraries; when their branches are taken into account, the Network represents more than 90 libraries ranging from major academic to store-front public.

Space limitations prevent a complete description of "how to do it," but a few comments on organizing a disaster network might be appropriate.

It seems inevitable that the largest libraries will provide the initiative and the nucleus for a disaster network. They have the most resources to draw upon and the most to lose in the event of a disaster. Chances are good that larger institutions have already given some thought to disaster preparation because of the value of their archives and special collections, or even because of requirements in city and county emergency codes. A commitment of sufficient resources, both of money and personnel, must be made by each library for such a program to succeed. This entails support for research and preparation as well as implementation.

An administration must be convinced of the value of such cooperation before it will commit resources to help create the network. In addition to a commitment of the disaster officer's time, administrations must also be willing to allow release time for staff to attend workshops and go to the aid of network members who have suffered a disaster. The latter issue can be problematical, depending upon the different types of union contracts involved, and must be carefully explored.

There are some additional benefits to such a network that fall under the heading of public relations. One is the fostering of closer ties between the libraries in the region and a better understanding of the interactive role each one plays. It can also improve relations between an educational institution and its surrounding community. Perhaps this is difficult to measure; nevertheless, it is certainly desirable.

The fortunes of each network, and its level of success depend upon the mix of people and institutions involved and their depth of commitment.

Let's close with a sample scenario demonstrating just how a network could swing into action to minimize a disaster's impact.

A network member suffers a disaster -- a flood caused by a burst pipe, for example. Thousands of important volumes are soggy and threatened with being disposed of unceremoniously. Instead of stumbling around, panicky and ineffective, the disaster officer knows exactly what to do and whom to contact. The officer starts by invoking the disaster plan that has been especially tailored to that institution. Phone calls alert key personnel trained by network sponsored workshops on exactly what steps to take. Immediately help is on the way. Trained staff members arrive and begin organizing the salvage effort.

A disaster takes a tremendous emotional and physical toll, especially on the home staff. Some become emotionally devastated and unable to work at all; others push themselves to the point of exhaustion and may make errors in judgement. In such an emergency, colleagues from the network help the disaster officer think of the myriad of details that need attention. They make phone calls, handle volunteers and supervise salvage crews. The network of disaster officers, with trained volunteers from their libraries, stands ready to aid the stricken library before its own staff reaches its limit. Because of the preliminary work done by the network, time is not lost trying to locate supplies and decide on the best plan of action.

And, after it is all over, the afflicted library also has the strength of many added to its own, to put it all back together again. Whether the need is air drying or reshelving volumes, the network will be there, assisting in the aftermath.

No matter what the individual diversities of libraries in a region might be, they are all charged with preserving the collections in their care. Uniting together in regional networks before disaster strikes makes good sense, financially and otherwise. The more libraries that do it, the better the chances of protecting our precious resources.

CUSTODIANSHIP TO CONSERVATION:
BUILDING ON THE PRESERVATION FOUNDATIONS OF OUR FOREBEARS

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Abstract. An examination of preservation thought and practice in academic and research libraries at the turn of the century reveals a surprising level of thought and activity. This paper documents American academic libraries' turn-of-the-century preservation concepts and concerns; suggests the period as one of preservation awareness and activity second only to that which began in the 1960's and continues into the present; offers explanations for each period's strong interest in conservation matters; points out differences in the nature of these interests; and demonstrates the influence of our forebears' work on the present day preservation plans and activities of American academic libraries.

Keywords and Phrases. Preservation; Binding; Conservation; History; Paper.

Although academic librarians' interest in the protection of library materials has a history almost as old as that of American libraries, before the late nineteenth century preservation activities were largely confined to custodial measures. Efforts were made to keep volumes clean and dry, books were mended and bound, and libraries were swept and aired. The Harvard College library went so far as to equip itself with boxes with handles, so that books might be quickly removed in the event of fire.[1] That preservation was not of serious concern in the early years of American libraries is not surprising. Even in 1876 libraries were still small in number and in size. Of the 3,647 institutions reporting in the Bureau of Education's Public Libraries in the United States of America: Their History, Condition, and Management: Special Report, only 266 owned more than 10,000 volumes, eighteen owned more than 50,000, and nine (five of them research libraries) owned over 100,000. Collections were small, and significant numbers of poorly-made volumes had not yet accumulated on library shelves, giving rise to serious apprehension about library preservation.[2] In fact, the Special Report of 1876 combines with Charles Jewett's Notices of Public Libraries in the United States of America and the proceedings of the 1853 Librarians' Convention (New York City) to express librarians' major concerns at mid-century: library building, Cataloging and classification, and collection development; little interest was shown in preservation matters.[3]

By the late nineteenth century, however, quite a different attitude prevailed. The industrial revolution had brought to the shelves of American libraries problems which simple conscientious housekeeping could not solve. Machine binding of books, as well as the use of alum rosin size and wood pulp in papermaking, had begun seriously to affect the condition of the book stock in these institutions. Other negative consequences of industrialization, such as the harm done to library materials by artificial lighting, air pollution, and city dust and dirt, were also obvious. Along with collection expansion, increasing levels of publication (and consequent cheapening of materials and production methods), the aging of collections established mid-century and earlier, and the risks associated with circulating library materials, the effects of industrialization produced preservation awareness, alarm, and action in American college and research libraries unequalled by that of any period prior to the latter half of the twentieth century.

At the turn of the century, while conservation was not the clearly defined functional area of librarianship it is today, the American librarian knew and used the term preservation. Melvil Dewey appears to have been the first library administrator to use the word as an actual heading in an annual report. In 1891 as director of the New York State Library he introduced a section "Preservation" with subsections "Binding," "Shelving," and "Building."[4] There is significant evidence that institutions, including the Library of Congress, Yale, Cornell, and the Boston Public Library aimed at building collections of permanent value and preserving these materials for the use of future generations.[5] Harvard's librarian spoke eloquently on this matter: "But what the Library once receives and incorporates in its collection, that it becomes responsible for, and should preserve for future reference since there is scarcely a book or a printed sheet that does not record some fact or aspect of current life, and hence possesses its own special interest to the student of human affairs."[6] A budding preservation ethic was also present. While there was no concept of reversibility, a strong sense of caution in the application of unproven techniques existed, as well as a respect for the book as artifact. Librarian of Congress Ainsworth Rand Spofford cautioned would-be restorers, before beginning work on a valuable book, to practice first on one of little worth.[7]

During the twenty years spanning each side of the year 1900, both the professional press and the annual reports of college and research librarians were filled with a broad range of preservation concerns. Early on, librarians expressed alarm about poorly made, deteriorating collections and dismay over buildings vulnerable to fire;[8] they tested the qualities of various binding materials ("Leather has within itself that which leads to its own destruction," opined John Cotton Dana) and evaluated a variety of library devices. including shelving, book supports, and pamphlet binders.[9]

Carnegie's gifts and the planning for a new Library of Congress building gave importance to Library architecture, and the relationship of building design to preservation was another popular topic throughout the 1880's. At one point an ALA committee appointed to study the plans for the new Library of Congress structure developed a resolution proposing that a more modern design be developed, to better ensure the "safety of the books"; the committee was particularly concerned about the library materials which would be shelved directly beneath the dome of the proposed "great hall," where accumulating heat would work to desiccate and destroy them.[10]

There was also considerable concern about leather decay, popularly though inaccurately attributed to gas lighting. A study of the causes of leather deterioration was first proposed in 1877, at the Conference of Librarians, London.[11] However, electric lighting (introduced in American libraries in the 1880's) and the increased use of binding cloths (first manufactured in the United States in 1883) made the issue less pressing.[12] It seems fair to say that the transition from gas to electrical lighting, and from leather to book cloths, permitted preservation interests to shift from the qualities of binding materials to the inferior structure of the publishers' bindings which characterized the 1890's and the first decade of the new century.

In the 1890's, academic librarians joined their colleagues in public libraries to begin openly protesting the poor construction and flimsiness of publishers' bindings; their complaints were the result of a steady increase in the mechanization of edition binding.[13] One person called for "a crusade of librarians of this country against the wretched bindings with which they are at present afflicted." Another, while lambasting edition bindings, was reluctant to call by name the offending, monolithic publishers; "I should as soon think of entering the sacred precincts on the banks of the old Nile," he wrote with bitterness, "and throwing a brick at the awful image of the great god Phthah." Still another librarian characterized inferior paper and mechanized binding as "almost fatal obstacles to a book's salvation."[14] Librarians organized themselves to seek better quality publishers' bindings by working through the American Library Association's Committee on Bookbinding, which began its work in 1906. At this time, the idea of special, sturdier editions for libraries emerged. The first examples of these more strongly bound books were published in 1907; however, their level of acceptance never corresponded with the degree of publicity they received, largely because acquisition procedures were far more cumbersome than those for titles in ordinary bindings.[15]

Although American librarians did not themselves conduct research into the qualities of book papers, they followed and publicized (in the pages of the library press) that conducted by others. While the Prussian Regulations for paper standards were acquired for study by the Library of Congress in 1896 and the Society of Arts' Committee on Paper Deterioration published its report in 1898, not until the U. S. Leather and Paper Laboratory began its work on book papers (1904-1909, and well-publicized in Library Journal) did this issue truly capture the attention of American librarians. A prescient John Russell Young, Librarian of Congress in 1898, used a section of his annual report entitled "The Durability of Paper" to draw Congress' attention to the impermanence of the paper on which much of the Library's collection was printed. "Under modern conditions of paper manufacture," Young wrote, "the press sending forth from day to day so much that is perishable, newspapers crumbling in the readers' hands, the question may well arise as affecting, not only our own, but all modern libraries, as to how much of our collections will become useless because of the deterioration and disintegration of the paper used in the cheapest forms of literature." Standards for book cloths (developed by the U.S. Bureau of Standards, for use with government publications) were also a product of this first decade of the twentieth century.[16]

American preservation activity did not end in 1910, and significant work was done in the three succeeding decades by such men as Harry Lydenberg, Herman Fussler, and William S. Barrow. Nonetheless, conservator Paul Banks has termed the period between the end of the second World War and the early 1960's "the silent years," because it offers so little evidence of preservation work and research.[17] In 1961, however, the funding of the Barrow Laboratory by the Council on Library Resources inaugurated a period of heightened preservation thought and activity which continues today. The Association of Research Libraries appointed its Committee on Preservation of Research Library Materials in 1960 and published Gordon Williams' The Preservation of Deteriorating Books: An Examination of the Problem with Recommendations for a Solution in 1964. This report supported and further publicized Barrow's finding that ninety percent of all books printed in the United States between 1900 and 1949 would be virtually unusable by the year 2000; Williams proposed that a federally funded agency be formed to address the problem.[18]

Over the next twenty years, research and other conservation activity continued apace. In 1965 the National Register of Microform Masters appeared, and the 1966 Florence flood generated both conservation publicity and opportunities for testing and developing new conservation techniques.[19] In the year that followed, the Library of Congress began its CLR-funded Pilot Preservation Project whose aim was to establish a central register of best copies. By 1972 Warren J. Haas, chair of the Association of Research Libraries' Preservation Committee, had prepared a report advocating, as had Williams, a national preservation program. Haas, however, proposed a "preservation consortium" rather than a central national agency.[20]

In the sixties and seventies several important research libraries (the Newberry, Yale, the New York Public Library) established formal preservation programs. Peter Waters, Christopher Clarkson, and Don Etherington, British designer/binders and book conservators, came to the Library of Congress, helping to develop its preservation program. The New England Document Conservation Center, the first cooperative workshop established primarily to preserve and restore library materials, opened its doors in 1973. Since that time, other cooperative centers or regional programs have been established, such as the Book Preservation Center at the New York Botanical Garden and the Research Libraries Group's preservation program. In 1979, to promote a different type of cooperation and standardization, the National Endowment for the Humanities awarded the Association of Research Libraries a grant for a project, under the directorship of Pamela Darling, to design a self-study preservation planning procedure for use by individual libraries.[21]

In 1981, Columbia University's School of Library Service became the nation's first degree-granting conservation education program and admitted its initial class of students. With this, library conservation moved an important step further in establishing itself as the "distinct professional discipline" with fully developed and recognized methods, standards, ethics, and educational programs to which Paul Banks refers in his article "Preservation of Library Materials" in the Encyclopaedia of Library and Information Science. Research, particularly in deacidification, progressed on several fronts as the Barrow Research Laboratory, Richard Smith, and the Library of Congress all worked on nonaqueous processes.[22]

The national preservation program envisioned by Williams and Haas seemed somewhat nearer in 1984, as the Council on Library Resources created the Commission on Preservation and Access whose work it would be to support, coordinate, and develop funding for a decentralized national program. In 1987, as American library leaders testified before the United States Congress about the acute nature of "the brittle books problem," Patricia Battin (who had succeeded Haas as Columbia University's Vice-President for University Libraries and whose career reflects a serious interest in preservation matters) was appointed the Commission's first chair.[23]

While a hundred years have passed since turn-of-the-century college and research librarians began discussing the still unsolved "brittle books problem," American librarians now seem better positioned than at any other time in their history seriously to address this issue, called by the Librarian of Congress "one of our most pressing national problems."[24] Many volumes have perished, and most contemporary books seem fated to follow their example. Although the library editions printed on sound paper for which earlier librarians sued have not come to pass, the technologies of film and optical disk promise that intellectual content, if not the artifact itself, can survive to be studied by future generations.

Clearly, the preservation activity which began in turn-of-the-century American libraries increased as the twentieth century progressed, the most notable advances having occurred since 1960. Several reasons for this suggest themselves. Of course, the World Wars interrupted most aspects of American culture, research, and scholarship; little progress (except for work related to disaster preparedness) might be expected during these periods or the years of recovery which followed. Further, the third quarter of the twentieth century brought remarkable scientific achievements - achievements whose preservation possibilities librarians presiding over enormous deteriorating collections were eager to explore. Finally, the 1970's saw a considerable stirring of American interest in things of the past. Perhaps this young nation was beginning to come of age; another possibility is that a period of prosperity provided Americans more free time to consider and pursue their cultural heritage. The "cultural crusade" for library preservation which began in the 1960's and continues today may have grown from more than the presence of a problem of considerable national magnitude and the availability of potential solutions: perhaps the strong interest of the American public in its past was the stimulus needed for an organized, systematic effort to begin.

Today, preservation has advanced from its turn-of-the-century state of simple though intense activity to that of a modern twentieth century movement characterized by the organization, funding, and concern that such a word implies. Several things explain this change. At the turn of the century, preservation was one of many issues competing for librarians' attention, as a new profession developed its ethics, methods, and collections. While there was clear interest in preservation issues, that interest was perhaps not as heightened as it is today, when the mission and systems of librarianship are much more settled and deteriorating collections considerably larger. Thus, it is not surprising that the major preservation interests of the late nineteenth century (binding materials, book construction) are different from those of the present (the impermanence of book papers, the need to preserve large quantities of embrittled materials, the distribution of responsibility for preserving materials). These shifts in emphasis are the outgrowth of the intensification and systemization of the American preservation concern, as well as modern scientific advances. Faced with cheap publishers' bindings and having no solutions for the problems of inherent vice, turn-of-the-century librarians had little choice but to make their intellectual and financial commitment to the external book, concentrating on the preservation of its protective shell, the binding. Today, sophisticated deacidification research, coupled with film and digital reproduction techniques, has led librarians to focus on the heart of the preservation problem, permanent book papers and the preservation of intellectual content. Further, late nineteenth century preservation lacked the organized approach which characterizes the present, as the American Library Association, the Council on Library Resources, the Association of Research Libraries, and the Federal Government work together to develop a decentralized national preservation program. Thus, while preservation work in the late eighties is both more sophisticated and more cooperative than that at the turn of the century, as college and research librarians we have built upon our forebears' concept of preservation, its mission, ethic, programmatic components, standards, and research, to make preservation the modern "cultural crusade" it is today.

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COMMON PROBLEMS, COMMON SOLUTIONS: THE PRESERVATION CHALLENGE FOR LIBRARIANS AND ARCHIVISTS

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Abstract. Archivists and librarians tend to emphasize their differences over their similarities. Yet, as Robert Warner, former Archivist of the United States, has predicted, a "convergence is taking place, not because the differences in the ways the professions do their jobs have been eliminated, but because the major problems facing both are in many cases identical." Chief among the "great equalizers" is the enormous preservation problem confronting the two professions. The sheer volume of endangered material is staggering, their collections suffer from the same stresses, and the resources for coping with the problems are limited.

As librarians and archivists come to understand the dimensions of the problem, they should begin to recognize the similarity of their positions and seek common solutions. Along with collaboration, meeting this challenge will require careful planning and the establishment of priorities, for not everything can be saved. Archivists and librarians will be primarily interested in developing a collection-level approach to preservation in order to get the most out of limited resources. But they must also respect the conservator's item-level perspective and develop new relationships based on a mutual understanding of the nature of the problem. The bottom line in meeting the preservation challenge is recognition of the problem, a commitment of resources, and a carefully thought out plan of action.

Keywords and Phrases. Librarians, Archivists, Conservators, Preservation Planning, Collection-level Preservation.

COMMON PROBLEMS

Archivists and librarians tend to emphasize their differences over their similarities. Yet, as Robert Warner, former Archivist of the United States and Dean of the School of Library Science at the University of Michigan, has predicted, a "convergence is taking place, not because the differences in the ways the professions do their jobs have been eliminated, but because the major problems facing both are in many cases identical."[1] Chief among the "great equalizers" is the preservation problem confronting the two professions. The sheer volume of endangered material is staggering, their collections suffer from the same stresses, and the resources for coping with the problems are limited. Recent studies confirm the pervasiveness of the preservation crisis which centers on the nature of modern paper and the poor environmental conditions under which the collections are kept.

Brittle Paper

In the past 100 years, paper manufacturing has involved the use of wood pulp and acids which have resulted in the embrittlement of a growing percentage of this nation's written record. Just how immense is the problem of brittle paper? A survey of state archives concludes that "most government records created during the past century cannot withstand the rigors of use and time without significant loss in image quality, physical strength, and chemical stability."[2] The Commission on Preservation and Access, a national body comprised of librarians, academics, and scholars, is dedicated to seeking solutions to the brittle books problem. When paper becomes brittle--that is a page cannot withstand a double corner fold--a book is considered "seriously deteriorated." The Commission currently estimates that 77 million (or 25%) of the 307 million volumes held by the 110 members of the Association of Research Libraries have reached that state. An additional 60% of their holdings are acidic and will become embrittled in time.[3] The Library of Congress estimates that 78,000 volumes from its collection cross over to the brittle state every year. Some libraries have found worse rates of deterioration. Yale reports that 45% of its collection is brittle, and the New York Public Library estimates that almost half the books in its stacks are now unusable.[4]

Environment

Poor environmental and storage conditions are a second major problem facing libraries and archives. The worst enemies are heat, light, dryness, dampness, dirt and use. Take heat for example. Exposure to high temperatures, even for a short period, can cause paper to become brittle, and the same occurs to books exposed to moderate heat over a long period. For every increase of ten degrees Fahrenheit, the life of paper is halved; thus a book that could last 100 years if stored at 68 degrees, would be too brittle for normal use in 25 years if kept at 88 degrees.[5]

Archival reports documenting the poor state of the nation's records indicate that presently no state archives has been able to address adequately its preservation needs. In one study, only 17 of 43 reporting states indicated the presence of both temperature and humidity controls in state archives, and of these, eight said that the system did not function properly.[6] Below the state level, libraries and archives suffer under even worse conditions. A 1983 New York state survey found that over 70% of New York's repositories lacked adequate environmental controls; 60% were unable to provide proper security or fire detection systems; and 42% performed no conservation activities at all.[7]

Costs

The costs of addressing such preservation needs are astronomical. In 1984, the National Archives estimated a price of $209 million for preserving its holdings.[8] The National Association of Government Archives and Records Administrators proposes a ten year preservation program for state archives at a cost of $471,800,000.[9] And in 1986, the Council on Library Resources sponsored a report on the brittle book problem which recommends microfilming three million titles over the next twenty years at a cost of hundreds of millions of dollars.[10]

Uniqueness of Material

The similarity and scope of these problems call for common solutions. Some may argue that because archives contain unique material, their preservation needs must be different. In recent years, the lines distinguishing the holdings of libraries and archives have blurred: both commonly contain flat paper, bound volumes, photographs, audio-visual materials, microforms, and machine-readable records. For the majority of these materials, the informational content, not the artifactual value, is the most important consideration. At the National Archives, for instance, only .4% of the holdings are considered to have sufficient intrinsic value to warrant the cost of conservation treatment.[11] As for uniqueness, even that distinction is blurring. If a book is brittle, other copies of it are also endangered. To be preserved, they must be replaced. In libraries with brittle book programs, extensive searching for reprints, later editions, or microforms occurs. The "hit rates" for finding acceptable replacements varies depending on the subject area. In a preservation microfilming project, sponsored by the Research Libraries Group, it was learned that while 60% of the American literature titles searched at Columbia had been filmed already, the hit rate for subjects searched at New York Public Library, including law, philosophy, religion, medicine and cultural anthropology, averaged 12%.[12] The majority of the material in this project was "unique" in that it could not be replaced except through reproduction. The Commission on Preservation and Access conservatively estimates that ten million of the seventy-seven million seriously deteriorated volumes held by ARL members are unique.[13]

COMMON SOLUTIONS: PLANNING

Few institutions have attempted to meet the needs of their deteriorating collections. The overwhelming nature of the problem, the lack of resources and administrative support, and competing institutional priorities are some of the reasons for this paralysis. Preservation planning is essential to address these issues. Planning starts with educating the administration to the crisis at hand and the need to divert resources to deal with it. Once institutional support is secured, planning follows similar patterns in both libraries and archives.

First, the most important, and ultimately least expensive preservation measure is a preventative one: providing a proper environment for the material. If an institution maintains satisfactory temperature and humidity levels; practices good housekeeping; provides adequate shelving, storage, and security; and institutes proper handling procedures, much of the problem will be addressed.

Developing Priorities

A second step in the planning process is to develop priorities. One common approach is to target those materials that are most at risk through use. In libraries, the circulation staff often is charged with identifying damaged books. Those with sound text blocs and good paper can be repaired using simple procedures. Damaged material that is also brittle should become a high priority for replacement. While the flexibility of paper decreases over time, the rate of deterioration slows down with age. This means that brittle books that remain on the shelves unused can remain intact for many years.[14] Use and deterioration together are responsible for most of the damage to collections, and brittle, circulating items often need immediate attention. The advantage to targeting used items for preservation is that it achieves the lowest rate of expenditure while treating the most vulnerable parts of a collection.[15]

A second group of vulnerable materials are those produced on an unstable medium. Brittle paper is one such example, as are early forms of photoduplication, nitrate-based negatives, and acetate tape recordings. For the majority of this material, the best form of conservation is to reformat it onto a more stable medium. While less expensive than physical restoration, reformatting is costly, and preservation decisions must consider factors other than the condition of the material. Most importantly, the research value should be firmly established. Some deteriorating materials are not worth the cost of replacement. Librarians and archivists face the difficult task of deciding which items will be preserved and which will not. Robert Warner has suggested that archival methodology of appraisal and records scheduling could be of great value to librarians as they select books and printed material for preservation.[16]

Preservation decision-making can be applied prospectively as well as retrospectively. The physical condition of material and the implications for subsequent conservation should be considered in the decision to acquire material in the first place. Of course, other factors besides use, research value, and condition will go into developing priorities for preservation, including the monetary value of the material, the importance of the collection as a whole, institutional priorities, researchers' needs, donor relations, the availability of outside funding, and the ability of the staff to perform conservation treatments.

Collection-Level Approach

Aside from assuring a safe environment and developing priorities for action, preservation planning should stress the development of macro-level approaches to treatment. Because of the magnitude of the problem, archivists and librarians need to treat collections, not individual items, and this need has had two results. The first is that most plans call for as much in-house preservation as possible, done by trained staff, but not necessarily skilled conservators. In many libraries, book repair units handle the majority of damaged volumes, and are staffed by non-professionals trained in simple but conservationally-sound repair techniques. Preservation plans have also called for the utilization of mass techniques, such as deacidification, encapsulation, fumigation, and reprography, which will do the greatest good for the greatest number. Much current research is exploring ways to make large-scale preservation of library materials feasible.[17]

Curators and Conservators

The second consequence of this collection-level approach has been a changing relationship between curators and conservators. While curators tend to concentrate on preservation issues affecting the entire collection, most traditional training for conservators has been focused at the item level. As a result, tensions have grown up between the two groups. Certainly skilled craftspersons are needed to restore that small percent of the collection whose intrinsic value warrants the time and cost, but conservators are increasingly needed to train others in basic techniques and to provide advice on the development of comprehensive conservation plans. Harold Cannon, Director of the National Endowment for the Humanities Office of Preservation, is critical of the education currently available: "While conservation for the restoration of the artifact is a well-established craft, they are not giving people expertise on things like humidity control and fluorescent lights and when and how you microfilm."[18]

Along with item-level training, some conservators equate strict adherence to the American Institute for Conservation's (AIC) Code of Ethics with professionalism. The Code holds conservators to the highest, most exacting standards of treatment. While this approach may serve the interests of the single item, full treatment for thousands of similar items will be beyond the resources of the library or archives. The curator's interests will rarely be in full conservation for the individual piece, but the minimum treatment necessary to stabilize all items to make them usable. The conservator, on the other hand, who holds "unswerving respect for the aesthetic, historic, and physical integrity of the object," may be reluctant to perform partial treatment.[19]

Curators and conservators are aware of their conflicting responsibilities, the resulting tensions, and the need for resolving their differences. The Rare Books & Manuscripts Section of the Association of College & Research Libraries has developed a Curators and Conservators Discussion Group to address such issues.[20] The Canadian Conservation Committee began its work with the premise that "archivists and conservators must jointly come to understand the physical state and environment of the collection as a whole, and both must be less dogmatic."[21] And the AIC itself recently requested a formal liaison with the Society of American Archivists in an effort to broaden its approach to the preservation of archival materials. Increasingly regional conservation centers are responding to current preservation needs by offering services for the whole collection, performing surveys, helping institutions develop disaster plans, conducting workshops, and providing preservation microfilming services.

CONCLUSION

As librarians and archivists come to understand the dimensions of the preservation problem, they will begin to recognize the similarity of their positions and seek common solutions. Libraries have begun to do this through participation in cooperative preservation microfilming projects. Archivists too need to collaborate, perhaps piggybacking preservation programs on other cooperative approaches, such as archival networks, or by expanding their work in developing documentation strategies. Archivists and librarians must build bridges to each other as well. Along with collaboration, meeting the preservation challenge will require careful planning and the establishment of priorities, for not everything can be saved. Archivists and librarians will be primarily interested in developing a collection-level approach to preservation in order to get the most out of limited resources. But they must also respect the conservator's perspective and develop new relationships based on a mutual understanding of the nature of the problem. The bottom line in meeting the preservation challenge is recognition of the problem, a commitment of resources, and a carefully thought out plan of action.

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SPECIAL COLLECTIONS AND SCHOLARLY RESEARCH: A CENTURY OF CHANGE

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Abstract. The last quarter century has seen a dramatic expansion in university programs. Fields such as womens studies, the design arts, communication arts and popular culture are now commonplace in the academic curricula. This paper explores the uses to which special collections are being put as a result of these changes. Using design history as an example, it identifies and examines resulting problems and advantages, and looks at how special collections librarians might position themselves in anticipation of the second century of academic librarianship.

THE EMERGENCE OF CONTEMPORARY COLLECTIONS

In his classic statement on the importance of rare books and manuscripts to the university library, the late William Jackson noted that students and scholars without access to original materials for research purposes "suggests the predicament of a man who, never having heard an orchestra or an organ, tries to understand Bach from the score along."[1] Jackson was speaking of the traditional collections housed in rare book and special collections departments, collections based primarily on antiquarian books and classical literary or historical manuscripts. The subjects generally reflected a pre-World War II curricula that included such areas as American, English, and Western European literature, history, politics and government, philology, philosophy, jurisprudence and theology. The last quarter century, however, has seen a dramatic shift away from traditional university programs. Fields such as women's studies, the communications arts, and popular culture: these and others now mark the academic landscape. Each needs to provide the student and scholar with original research materials.

One of the newest involves the history of design. Many research libraries have collections on design, but they are generally confined to graphic design in general and examples of fine printing, in particular. The recent emergence of design history as a discipline in a number of American universities and the growing scholarly interest in industrial and communications design has led some libraries to begin collecting the work of major American designers. Much of what is collected is in traditional print format: books, periodicals, fine print ephemera, in addition to a whole range of items categorized as manuscripts. These collections also contain non-print materials such as photographs, transparencies, slides, video-cassettes, and reel-to-reel tapes. Three-dimensional, non-materials also exist, many of which are examples of work produced by product, packaging, and corporate identity designers. They may include such items as champagne bottles, matchbooks, street banners, tie pins, and calendars, even printing presses and artist's tools and equipment. Collections such as these attempt to meet the requirements of expanding university programs in the design arts. At the same time they recognize the need to preserve historic and culturally important research materials in danger of disappearing. In the case of design, such collections seek to dispel the anonymity that generally marks design work, while celebrating the accomplishments of a field that has, until the last decade, remained generally ignored.

That such collections, with their many non-manuscript facets, could find a place in special collections departments (which basically contain three components: rare books, manuscripts, and university archives) says much about the shift in institutional collecting that has taken place over the last few decades. Kenneth Rendell, well-known dealer in autographs, manuscripts and rare books, noted during an address he gave at the 1985 ACRL/RBMS Preconference that, "virtually every factor effecting the collection of rare books and manuscripts has changed significantly in the past few years."[2] He singled out changes in the book trade and perceptions of value, among others, that have led libraries to the acquisition of a new kind of collection: one that is contemporary rather than historical; paper, rather than book-based; and administered by a new breed of special collections librarian who "possesses a general knowledge of operating a special collections department, the materials in it, has a good liberal arts background and is capable of working in many institutions."[3] This individual has replaced curators who began their careers with private collectors, followed the collection into an institution, only to maintain a collecting loyalty to the collection's creator.

The collections described by Rendell also represent the move away from traditional fields of study and a response to the explosion of new fields which have marked the post-World War II years. Urban planning, social welfare, environmental studies, communication arts, American studies, popular culture, ethnic history, the design arts (which encompass architecture, interior design, industrial design, graphic design, and photography, and film)--these are only a few of what now constitute a university's teaching and research programs.

SCHOLARLY RESEARCH AND ITS SHIFTS

New fields generate new informational and research needs, many of which are being met more frequently outside the library. In my own experience three examples come to mind. The first involves a communications arts professor interested in the history of children's television in Chicago. Although Chicago was a center of children's video in the late 1940s and 1950s, no primary source material existed in the Library (or in any other Chicago area library for that matter). An inquiry to local television stations about the existence of station records or tapes revealed that over the years most of the former had disappeared, while the latter had been taped over in the interest of economy. The faculty member opted to acquire the data needed by interviewing surviving industry figures. A second example involves a history faculty member who encourages doctoral students to gather their own documentation for Chicago ethnic and immigrant history. Several articles and at least one book have been written with the help of records discovered in the abandoned factories that surround Chicago's historic stockyards. Finally, a faculty member who specializes in studying the ways Hispanic immigrants learn English,routinely sends students out on survey and interview missions for their class projects.

In each case the researcher generated his or her own research materials, then processed them with the help of a personal computer, bypassing the library and librarian entirely. Indeed, the creation of independent records is reminiscent of the libraries of scholarly research materials established by faculty in the earlier part of this century, collections of rare first editions, letters and manuscripts, and examples of fine printing which, once the faculty member's career was over, were often donated out of institutional loyalty to the library. These formed a skeleton which librarians later fleshed out during the rich years of the 1950s and 1960s. One wonders if that will happen with the contemporary records scholars now acquire for their own research, or if they are so ideosyncratic as to be virtually useless to anyone other than the compiler.

The history of design, mentioned earlier, does possess professional organizations, specialized publications, and an expanding body of scholarly documentation. Several data bases dedicated to design now exist, including England's Design International (1984-) and France's CeCile program (1979-). Design collections or repositories are still few and far between, in part because the body of design work is difficult to collect. For example, several years ago the University of Maryland attempted to mount a design exhibition which would trace the designer's work from the initial idea to the finished design. It asked prominent American designers to keep such a record over a period of time in order to produce material for an exhibition. No designer did and the exhibition was not mounted.

The University of Illinois at Chicago has recently organized a repository which seeks to document the history of design in Chicago. The Rochester Institute of Technology is creating a visual archive of the work of selected European and New York designers, the Smithsonian has fine design collections, including the work of Container Corporation of America's design offices, and the recent purchase of Raymond Loewy's papers by the Library of Congress may be a signal to college and university libraries that design as a collecting field is now legitimate.

SPECIAL COLLECTIONS AND THE FUTURE

If special collections librarians are to plan for the future they must begin to look towards the newer fields of study, exploring how these may offer resources to build the great collections that will distinguish the second hundred years of academic librarianship. Because so many of the fields are interdisciplinary, they will need to plan for a wide range of users, and explore existing collections. Collection such as these in the field of design, show that the traditional researcher in search of books, periodicals, manuscripts, and business records represents only one of many needs. What of the student who wants to examine handcut steel punches and reflect on the wisdom of typography that passed from one craftsperson to another, or the design student interested in categories of materials such as corporate identity programs, signage systems, consumer advertising or packaging, audio-visual presentations, trademarks and logotypes? In order to meet these needs it becomes important to have data on such things as designer(s), design director, illustrator/photographer, copywriter, printer, design office, client, or even special graphics arts supplier. Since much of the collection is visual, users will expect visual access. Students of design need to quickly and comprehensively scan the work of individual designers, looking for ideas as well as information. Finally, users may want to study design from a sociological view, to examine how society preceived (or perceives) itself. Urban history and communications arts are just two of many additional fields that would also find design collections valuable.

Traditional methods of library cataloging and classification are inadequate in providing multiple points of access needed in contemporary collections. One solution is to organize materials around the archival concept of provenance and further arrange them by subclasses of materials, chronologically whenever possible, providing summary descriptions of each of the collections. Detailed access to the kind of data previously mentioned can be accomplished through the creation of machine-readable data records, accompanied by a thesaurus and a printed guide to the collection. To provide users with visual access, one alternative is to employ methodology used at the Rochester Institute of Technology in its videodisk archive on Graphic Design History. This assembles a large collection of original documentation, much of it in the form of slides, which can then be mastered on to inexpensive, capacious videodisks and be retrieved by computer.

In conclusion, for the rare book and special collections librarian, contemporary, non-traditional collections such as design represent not the end, but the beginning of a journey, one in which new and expanding fields of knowledge and the resources of technology will play important roles. Collections such as this, which are proactive rather than reactive, and which are organized with focus, scope and depth, subject to the rigors of an ongoing evaluative process, will contribute to defining the very fields they represent.

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THE CAIRNS COLLECTION : WOMEN'S WRITINGS IN PERSPECTIVE

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Abstract Since 1970 the Memorial Library at the University-Madison has been building a special collection of the works of American women writers to 1900. The intent was to establish an exceptional research resource documenting the literary and historical role of women in American culture from 1620 to the turn of the century. Although the collection was initially conceived as a literary collection the experience of almost nine years has clearly revealed the highly interdisciplinary nature of women's writings during that period and the need to enlarge traditional collecting approaches in order to accommodate the wide scope and range of relevant materials.

The paper describes how the collection can provide a context for evaluating popular taste and the economics of publishing affecting women writers as well as its role in integrating neglected significant writers in the literary canon; it explores the uses to which the collection has already been put as a result of current research trends in women's studies, and the importance of collections in other disciplines as complementary resources; finally it suggests ways in which the same approach can be extended to other special literature collections, and possible strategies for academic librarians building special collections on the threshold of the twenty-first century.

Keywords and Phrases: Special collections, women's studies, 19th-century American literature, American women writers.

Special collections present for the selector challenges, opportunities, and rewards. As a microcosm of a library, special collections illustrate relationships between abstract policies and the practical execution of such policies, as they integrate all of the functions of collection development. Yet as we witness the gradual erosion of traditional research patterns in the humanities in the wake of interdisciplinary developments, new approaches are needed to special collection building.

Special collections are by definition assembled by preconceived design to create research opportunities not normally found in general collections. A description of the Cairns Collection of American Women Writers to 1900, housed in the Department of Rare Books and Special Collections at the University of Wisconsin-Madison, and of its nine-year history can serve to illustrate methods and purposes of designing collections, and to highlight the difference between traditionally conceived collections and one recently conceived.

The Cairns Collection has the advantages of being newly established, permanently endowed, and devoted to a subject currently enjoying great research interest. As such, it can be studied as an ongoing experiment as well as used as a model for other types of collections. Started in 1979, the collection has as its purpose the gathering of exceptional materials in the field of American literature, and more specifically the collecting of works by American women writers before 1900. During the last decade the development of women's studies programs has focused attention on the need for resources. Efforts to include more women writers into the college curriculum in order to enlarge the canon of American literature and to alter the definition of American culture have been greatly hampered by the unavailability of texts. While texts do exist in the collections of research libraries, they are frequently scattered on the shelves; apart from a handful of women writers, many authors were never systematically collected and many works seem to have found their way into libraries by mistake or accident. Moreover, a large body of popular fiction, long discarded by public libraries once the popularity of those 19th-century bestsellers had run its course, is simply nowhere to be found in university library collections because such works were previously not considered worth collecting. It is this situation that the Cairns Collection proposes to remedy.

Original policy identifies two distinct parts in the collection. The first includes nine established women writers of major stature, already enjoying established literary reputations: Louisa May Alcott, Anne Bradstreet, Kate Chopin, Emily Dickinson, Mary Wilkins Freeman, Margaret Fuller, Charlotte Perkins Gilman, Sarah Orne Jewett, and Harriet Beecher Stowe. For these our task is to put together complete holdings -- primary sources sources in all available editions, manuscripts, articles, along with biographies, critical works, and bibliographies providing a readily accessible core of scholarship of indispensable value for textual or critical analysis. The second identified purpose of the Cairns Collection is to assemble in parallel fashion a richly representative collection of belles-lettres by other American women writing during the same period. Because some of these authors are already represented in the general collections, existing holdings are sometimes duplicated; conversely, texts scattered through stacks can be transferred to the collection, gaining new significance through their integration into the collection design. Scattered varieties of women's writing are assembled in one location; acquisition of secondary materials dealing with those works is justified both for the general and special collections.

The experience of nine years of selection has helped uncover flaws built in the original policy. When policy goals cannot be met, revisions are in order, dictated by the availability of materials in the book trade, by the holdings of other libraries, by observing the emergence of unexpected patterns of use, and by recognizing the importance of certain dominant topics of research interest for a variety of academic disciplines. A good example of such revision is provided by the question of manuscript collecting for the major writers. Early on it became obvious to the selector that significant manuscript collections had already been gathered in older, more established institutions. Nothing substantial is likely to be encountered in the future; if materials exist they are likely to be miscellaneous in nature and too highly priced to be worth acquiring. Conversely, although the original decision was not to seek the acquisition of manuscripts for writers on the second list, their correspondence with editors and publishers -- of considerable research value, does turn up regularly at affordable prices on the manuscript market, and can easily be acquired. Since our objective is the rediscovery of authors as well as texts, and given the present dearth of biographical and critical information, such materials are indispensable for new editions, biographies, or critical studies. Collecting policy as a result has been altered to reflect these realities and to fit both supply and demand.

Need for flexibility in the selection policy also stems from the difficulty and sometimes impossibility of limiting selection to purely literary materials. Nearly two decades of women's studies programs have shown that women's writings cannot easily be pigeon-holed into traditional categories. Much material outside the clearly labeled fiction, poetry, and drama falls into "discontinuous" forms. The variety and bulk of such works have wide implications for research other than literary: they provide social or cultural historians with sources for the study of the conditions of literary production, or the economic aspects of publishing. For many 19th-century women authors writing was a way of earning money in an age when few professional options were available. It is clear that such a pragmatic approach has wide implications for the way those writers perceived themselves and their craft. Significant research has already started on this topic.

On the other hand, many works by women are resolutely non-literary in nature; historical or political texts do not fit our collecting design and are the responsibility of the Wisconsin State Historical Society where they have long been extensively collected. In cases where our interests overlap, individual decisions based on need and common sense have to be made. The potential value of the Cairns Collection as a major resource for interdisciplinary research is enhanced by the unique holdings of the Wisconsin State Historical Society, and the ability of two adjacent institutions to complement each other.

Economics of publishing and readership studies can be profitably documented through our holdings. Beginning in the late 18th century with the publication of *Charlotte Temple* by Susanna Rowson, bestsellers by women writers were produced at a steady pace through the 19th century, reaching phenomenal sales as an effect of growing literacy and the emergence of mass market publishing. Research libraries have in general given scant attention to this type of fiction because it was not until recently perceived as a topic for research. While such works were certainly acquired by public libraries everywhere, their very success was the cause of their subsequent disappearance, as they were read to pieces and eventually removed from library shelves and from the memory of the reading public as new titles took their place. The antiquarian book trade can provide copies of those works. An effort of rediscovery and dissemination is already under way, and publishers have started reprint programs. We own many of those texts in the original. The need to go back to original sources will always be imperative; they provide much more information than any reproduction can give, not only through the examination of paper, printing ink, bindings, etc., but also through advertisements, lists of other books, bookplates furnishing information on readership, and so on. British editions of those works open another perspective: British printings, often pirated, offer incidental interest with presentation bookplates and inscriptions showing that they were often given as school or Sunday School prizes to young girls, revealing much about their readership.

While considerable research has already been undertaken to integrate women's works into the existing canon, and while such research manages in some cases to integrate literary analysis and cultural history, reevaluating certain novels for their literary merits and others for their historical and social significance -- and sometimes both -- it is clear that many of those novels have little literary merit. Requiring to be "examined" rather than "read", they provide a necessary context for the evaluation of popular taste, and the economics of publishing as they affected women writers. The focus of female writing and publishing furnishes a kind of experience notably missing from most "classic" American fiction, drawing on material previously considered too trivial for scholarship; to read the literature of 19th-century American women requires that one identify as a woman and examine the world through a woman's eye, with significant implications for the rewriting of 19th-century literary history.

What such diversity also indicates is that we have to enlarge our traditional scope of collecting. We have no need to demonstrate the literary worth of our nine major writers, but we do have to build a context for their works. Thus we have begun to acquire peripheral materials well beyond the confines of our original policy: variants of texts and bindings, foreign editions, translations, piracies, stage adaptations, sheet music, scarce journal runs, annuals, gift books, writers' photographs, ephemera, publishers' announcements and dummies, scrapbooks, unpublished stories with rejection slips and comments by publishers, etc. The list is almost endless.

Our *Uncle Tom's Cabin* holdings provide a significant example of this development. We already own over 150 editions directed at vastly different audiences and markets, as well as a wealth of artefacts testifying to the extraordinary popularity and influence of the work: imitations, parodies, playbills, magic lantern slides, songs, illustrations, etc. Foreign adaptations and piracies, before copyright laws, reflect the amazingly rapid propagation of the work in European countries and its lasting influence. The question of cultural transmission and translation of texts at all levels is an extraordinarily interesting one which can be examined from such sources. Stories by American women authors such as Louisa May Alcott appear to have enjoyed almost simultaneous success in France upon their publication in serial form. French translations of *Little Women* abound and have never been out of print; a French translation of Maria Cummins' *The Lamplighter* was in print in a juvenile edition in the nineteen fifties at a time when this bestseller was completely forgotten in the United States. Discovery of those cultural phenomena raises fascinating questions, and it shows that our original policy to collect only first editions is inadequate. This is not limited to fiction. We have acquired, for instance, a group of announcements of lectures given in the early years of the 20th century by Charlotte Perkins Gilman. These ephemera document her role and influence as an educator, reformer and propagator of feminist ideas as useful for research as our first edition of *The Yellow Wallpaper*.

The extreme scarcity of 18th-century works presents different problems for the selector. Historical circumstances and the development of education for women are reflected in those early productions. Virtually the only form of writing by women in the early period is poetry, of an overwhelmingly religious nature; some derivative drama is also found. America's first bestseller, *Charlotte Temple*, is to be considered within such a context and collected in as many editions as are available, because their number dramatically illustrates authorship, publishing, and readership in America at the close of the 18th century, and constitutes a physical and archival record of its phenomenal success, leading to acceptance of the novel as a respectable genre against earlier fears of its subversive powers.

The range of materials just described presents special problems of access and storage in the context of a research library traditionally geared to print media. Special provisions for cataloging must be made, since standard cataloging records do not include adequate bibliographical information needed in order to distinguish between variants. Compatibility with the OCLC requirements is also problematic. In-house schemes have to be developed. General access policies and restricted hours in Rare Books also hamper use of the collection. Particular problems occur with non-print media: microfilms have to be housed and used in the Microforms Center; sheet music is cataloged separately by the Music Library using different practices; miscellaneous items described above have so far been kept together along with books in the Rare Book vaults. A more systematic approach directed at access and preservation has yet to be devised.

All this activity is rather pointless if the intended clientele of users fails to be informed of the research opportunities offered, and to use the collection. Given the limitations listed above, only the broadest user patterns have emerged since the inception of the collection. Typically, use by undergraduates has been limited to consultation of single texts not available in the stacks and needed for a paper. Use by graduate students has been much more extensive, connected with interdisciplinary research within the Women's Studies Program, involving social history or education as well as literature. Use by faculty is often linked with specific teaching needs; scholars also need to examine variants of an edition for textual research or descriptive bibliography, or for the preparation of new critical editions of obscure and forgotten texts.

There is already much evidence that use of the collection is interdisciplinary, and that our resources support research in sociology, cultural history, education, domestic economy, children's literature, and publishing history. User patterns help the selector to determine future policy decisions allowing the collection to change continually. Because the collecting stops at 1900 the general collections must carry post-1900 imprints. If the cutoff date of 1900 continues to seem arbitrary, the selector will have to decide whether and how far the period of collection should be extended.

An active promotional program is essential if the collection is to continue to reach its intended audience. Workshops, presentations, displays and structured exhibits are conducted for students and faculty from various departments. Cultural artefacts and documents require display techniques usually reserved for museums, and it is clear that librarians have much to learn from art institutions if they are to promote their holdings; like books in any collection, the Cairns holdings can be displayed around a variety of themes: bestsellers, temperance, regionalist fiction, slavery and the South, moral and religious education, Utopian narratives, children's books. Nonbook items establish a cultural context in a display where they attest to the impact and influence of certain texts from the time of their publication. Publication of regularly updated guides to the collection including an author list prepared to serve as a register is also a helpful promotional device.

The idea behind the Cairns Collection can be used for similar theoretical groupings of works in the general collections by British women of the 18th and 19th centuries, supplemented by the acquisition of books or texts in microform. In spite of the high cost of some materials, a strong case for acquisition based on special funding can be made, given the wealth of cultural information that could be provided by two parallel collections in English. The example of 18th-century popular writing suggests that one can extend the same approach to contemporary literature. Recent books dealing with various subgenres of popular culture form another substantial body of criticism of texts more or less adequately represented in the catalogs of research libraries. Mystery and detective fiction has always been collected. The extraordinary popularity of the Harlequin romance type of fiction has already prompted a good many published studies, even though these ephemeral paperbacks have not been collected in most research institutions. The same applies to subgenres such as women's fantasy and science fiction. Studies place romance fiction within the context of a literary tradition going back to the 18th century with Mary Shelley and Jane Austen as its early exponents, and provide a useful typology as well as bibliographies of secondary sources. The intellectual connection between popular novels of the past and the present is sufficient reason to collect current romance fiction, but additional reasons justify its presence in special collections. Paperback romances wear out quickly, are soon out of print, and the public libraries which buy them neither replace worn copies nor keep archival ones. Current research on these popular novels is interdisciplinary, stemming mostly from psychology and sociology, while very little literary criticism is available, probably because the genre has almost no literary significance. As fiction, however, these novels clearly fall within the purview of the literature specialist, and representative examples should be collected to link the genre to the bestseller tradition already represented in the Cairns Collection, an undertaking made easier by the fact that the overwhelming majority of romance fiction purveyors are women.

Systematic evaluation of the special collection and of its relation to the general collection should be a continuing process. What proportion of the works of an author can be said to be truly important? How many titles are needed to complete the holdings of an author? What is the overall physical condition? Is the collection really unique in scope, or is there another institution trying to do exactly the same thing? How well does it serve present needs, and will it stimulate further or different research? To what extent are faculty and graduate students aware of our resources and of their research potential? What can we do to increase their interest and support? Is there an active partnership between the special and general collections? These and other concerns must be addressed in any attempt to measure accomplishments. The use of interrelations between topics will serve multiple research needs. The identification of such interrelations is the task of the selector, who needs a good dose of imagination and enough time to read in order to develop strategies and determine topics upon which existing resources can be built upon.

Design and planning of the Cairns Collection, like any other special collection, is apt to be idealistic, and does not always take into account actual circumstances existing in the institution. Problems may stem from administrative rigidity, the dictates of classification schemes, storage, shelving, preservation, and more generally, budget constraints in the humanities. It is difficult for a single collection, even if privately funded, to flourish in isolation. Yet as a developing major national resource, its effect on other collections, closely linked in a series of complex topical connections, must in the end be a most beneficial one.

IX.
READERS' SERVICES

EXPERT SYSTEMS AS INTERACTIVE USER AIDS

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Abstract. There are still large classes of information which are not easily accessible by computerized means. Reference works especially, tend to fall outside the scope of bibliographic utilities and integrated library systems. Access to the contents of, and services provided by most reference works is simply not possible at the level of the MARC record. Expert systems represent one effort to improve access to information at the local level, while continuing to take advantage of existing global information systems. In the future expert systems will serve many of the functions now served by in-house publications in academic libraries. This paper will examine the development of microcomputer based expert systems to better serve the needs of those requiring the types of information contained in reference sources. It will also describe how such systems can be used to instruct users on research strategies, to establish dynamic links to existing integrated library systems, and to insert "filters" between clients and expensive online databases. Examples from a system under development will be provided.

Keywords. EXPERT SYSTEMS, REFERENCE, USER AIDS, PATHFINDERS

POTENTIAL OF EXPERT SYSTEMS

We are beginning to see efforts to develop systems which represent alternative ways of providing access to complex information sources like reference books. People are attempting to develop expert systems which capture a portion of the knowledge possessed by reference librarians. An expert system is a computer program which is designed to simulate the expertise of humans within a narrow, well-bounded domain. Reference librarians needn't worry about their jobs; the most likely role expert systems will play in reference work is that of another instructional medium and finding aid. The expert systems now under development have much more in common with the handouts which fill literature racks in academic libraries than they do with the people who staff reference desks. Reference librarians and clients now consult locally developed handouts for information on reference sources within narrow domains. Before long expert systems will perform similar advisory and educational functions.

Among the roles which we can reasonably expect expert systems to perform in the future are:

- to serve as information consultants within specialized subject domains
- to serve as educational media for teaching students about search strategies and the use of specific reference tools
- to serve as a medium for describing reference works in richer ways than are possible with MARC records
- to help users navigate electronic information sources by switching from one source to another and providing assistance with search strategy for each source
- to build user and institutional search profiles

THE REFERENCE PROCESS

The emergence of expert systems has stimulated renewed interest in the reference process. Research done decades ago is being reexamined for what it can tell us about the knowledge engineering of expert systems for reference work. (1, 2) Before we can develop expert systems to assist reference librarians, we'll need to investigate the tasks performed by reference librarians.

One of the things which makes reference work so interesting is its complexity. Few jobs involve dealing with so many different types of people and information sources. Reference publishing is flourishing. Electronic databases have proliferated. Full text and numeric files are commonplace. CD ROM has established itself as an alternative medium for information delivery. Online public access catalogs (OPAC's) now provide increasingly sophisticated access to printed works.

There are so many different print and

electronic sources available nowadays that a good bit of reference work involves recommending the best of many similar tools, and switching from one information format to another. Each tool has its own organizational structure and access language, neither of which are familiar to most clients. In academic libraries especially, the reference librarian plays the role of mentor and gatekeeper -- recommending sources and courses of action, instructing clients, and interpreting some rather arcane schemes for handling information. Technology has been applied to many of the problems of information access faced by reference librarians, but so far the problems associated with recommending sources and instructing clients have resisted technological solutions.

A SHIFT IN EMPHASIS

In the past emphasis was on large scale, global technological approaches to problems of information access. Bibliographic utilities for shared cataloging and union listing, large online databases, standard record formats, and standards for data communications all evolved in response to global, collective needs. We are now in an era of rapid development of integrated library systems. Integrated systems represent a shift in emphasis from global to local concerns when compared to the large scale, shared information utilities which preceded them. Integrated systems represent an important step in the use of computer technology to manage library collections. However there are still large classes of information which are not easily (or cheaply) accessible to the uninitiated. Reference works especially, tend to fall outside the scope of bibliographic utilities and the current generation of integrated library systems. Access to the contents of and services provided by most reference sources is simply not possible at the level of the MARC record. Providing access to the types of information contained in print and electronic reference works has remained the job of the reference librarian.

Reference librarians have always focused primarily on helping clients use locally available resources. The growth in importance of bibliographic instruction is evidence of that focus. Recommending and interpreting specialized sources of information is a big part of the job. Within every subject field, core resources are consulted frequently. Bibliographies, pathfinders, workbooks, and locally developed instructional material are all designed to help users navigate small domains within much larger collections. Most are attempts to compensate for deficiencies in larger, more globally oriented systems. Expert system development technology offers the opportunity to add new interactive tools to the repetoire of user aids. Expert systems like printed handouts can reinforce the reference librarian's role as mentor and instructor. **(3)** Expert systems can also be used to interact directly with OPAC's, bibliographic utilities, online databases, and CD ROM's. An expert system can enhance access to information at the local level while continuing to take advantage of already established global information systems. **(4)**

EXPERT SYSTEM PATHFINDERS

Expert system technology may be less threatening to reference librarians if expert systems are viewed as another form of in-house publication, an interactive handout which can contain descriptions of information sources as well as rules for using them. It is not unusual to see a librarian consulting a handout prepared by another librarian who has more expertise in the subject area treated by the handout. Nor is it unusual to see clients using locally prepared handouts to help them with research in specialized subject fields. Expert systems are similar. Each type of user aid is a distillation of a reference librarian's knowledge about sources within a specific domain. View expert systems as additional sources to be consulted, a new category of user aid, nothing more, nothing less.

In fact, existing printed handouts may form the basis for many future expert systems. The difference between an expert system and a handout is that an expert system is capable of acting upon the advice that is typically found in a handout and developing a search strategy for the client. A microomputer based system will usually consist of **If..Then** rules about reference sources within a narrow subject domain. Imagine a pathfinder which can modify the path it recommends as a student interacts with it. If handouts are already in machine-readable form, inexpensive expert system shells can be used to design systems which incorporate rules for recommending specific tools and links to explanatory text. A simple rule might read:

If your topic deals with public

> affairs and you need a current journal article or a government document or a book, a recommended source is PAIS. Print the PAIS description.

Once a rule "fires" and a source is recommended, descriptive and instructional text for the recommended source can be displayed or printed.

Just as a reference librarian establishes priorities when recommending sources, an expert system must identify which cluster of rules should be activated for specific user needs. Expert systems can also be linked to one another by a process known as chaining. For example, if a student expressed an interest in industry information a set of rules on industry information sources might be activated. While interacting with the system, the student might indicate a more specific interest, perhaps for information on the computer or automobile industry. The expert system could then call forth a new set of rules relating to the specific industry in which the student was interested. The final result would be a printout with annotated entries derived from different "electronic handouts"

The cost of printing has always had a chilling effect on the length and number of handouts published in many libraries. An expert system would only generate descriptions of those specific sources which were pertinent to the information problem at hand. Annotations could be as long or as numerous as required by the subject domain. One by-product of a reference expert system is a custom-designed handout based on each user's specific needs.

Microcomputer-based expert system development programs known as shells can also be used to control interaction with other programs. An inexpensive shell can be used to call text files, and talk to database management or communications software (5) Perhaps the most fruitful area for research and development lies in linking expert systems to programmable communications software. Rules can activate communications "scripts", logging on to online files, connecting to the local OPAC, or connecting to local numeric files on academic computing systems. Besides acting as gateways to a variety of electronic formats, scripts can contain "filters" for limiting the number of acceptable retrievals, limiting a search by date, language or source, even modifying a strategy based upon output.

An expert system can also be used to develop user profiles by creating rules which recommend different sources to different user categories. Once again it would be crucial to draw upon the expertise of skilled practitioners when devising rules. For example we might have two different rules for a subject area; one for a freshman English student and another for a faculty member doing research for a book. If the topic was literary criticism the rule for the student might recommend and describe one of the basic printed sources. The faculty member's rule might activate a communications script, connecting her to the MLA database while allowing her to specify her own delimiters and download results.

Of course the downside of an expert system cum handout is that it can't be used without a workstation dedicated to it use, a workstation with access to an OPAC, a CD ROM, and an assortment of online databases. But that's not such a wild idea anymore. Card catalogs are being replaced by OPAC's. Literature racks and handouts may one day be replaced by workstations and expert systems

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INTERLIBRARY LOAN: A WINDOW ON THE INFORMATION WORLD?

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Abstract. Interlibrary loan has changed from the late nineteenth and early twentieth century informal arrangements between libraries, to a system regulated by the American Library Association's interlibrary loan codes, and since the 1960s to a hybrid system mediated by networks and consortia and ALA codes. The history and background of interlibrary loan service are briefly examined and the impact of automation is reviewed. While automation has opened the window on the information world, slow and uneven interlibrary loan services can discourage requesters. Standards should be established for regulating the turnaround time for supplying materials and alternative methods of document delivery should be considered.

Keywords and Phrases. Interlibrary loan, document delivery, turnaround time, performance standards.

HISTORY AND BACKGROUND

Samuel S. Green, a public librarian, wrote a letter to *Library Journal* in 1876 which stated, "It would add greatly to the usefulness of our reference libraries if an agreement should be made to lend books to each other for short periods of time."[1] This letter is acknowledged as the first formal proposal on interlibrary loan in the United States. In the 1890s, the Boston Public Library loaned books to other New England libraries, and the University of California librarian announced his willingness to enter into reciprocal borrowing agreements.[2]

While there was some lending of resources in these early years, it was not until 1917 that the first ALA code for interlibrary loan was adopted. Its purpose was two-fold: "(a) to aid research calculated to advance the boundaries of knowledge, by the loan of unusual books not readily accessible elsewhere, (b) to augment the supply of the average book to the average reader."[3] In 1930, Constance Winchell wrote, "Thus the practice of the loaning of books by one library to another has grown from an occasional favor to a more or less organized system. This, however, should not release the borrowing library from a sense of appreciation and a realization that to request a loan is still to ask a favor."[4] In the 1930s, a survey provided information on the interlibrary loan practices in college and university libraries.[5]

The interlibrary loan code was revised in 1940, 1952, 1968, and 1980, providing more detail on types of uses and users for materials and calling for abuses to be controlled by librarians at borrowing institutions. In 1940, when the code was revised by an ACRL Interlibrary Loan Committee and approved by the ALA Council, a section on violations of the code was added. The 1952 code stated, "The purpose of interlibrary loans is to make available for research and for serious study library materials not in a given library, with due provisions made by the lending library for the rights of its primary clientele.... Interlibrary loan service is a courtesy and a privilege, not a right, and is dependent upon the cooperation of many libraries."[6]

The 1968 code recognized changes in interlibrary loan caused by automation: "The present interlibrary loan system may be radically changed by less conventional methods of transmission of materials, such as telefacsimile and computer networks. Until such methods have gained widespread acceptance, their use must be based on special agreements among libraries."[7] The model state code, developed at this time, acknowledged "libraries of a common geographical area or those specializing in the same field may find it advantageous to develop codes for their own needs."[8] The development of geographical networks had begun in earnest after 1966 when the Library Services and Construction Act authorized federal matching funds for library cooperation.[9]

The 1980 code claimed that "the effectiveness of a national system of interlibrary lending is directly related to the equitable distribution of costs among all the libraries involved" and that "requests to national and research libraries or requests beyond networks and consortia should only be made after local, state and regional sources have been exhausted."[10] The introduction of OCLC's interlibrary loan subunit in 1979 led to much discussion. A study of the growth of interlibrary loan at large libraries suggests that OCLC's impact has probably not been as severe as feared and major lenders are themselves borrowing more.[11]

FROM INFORMAL TO FORMAL ARRANGEMENTS?

With the availability of a variety of online databases of library holdings, theoretical access to a wide range of resources exists today. Some libraries have not included their total holdings because of the expense of retrospective conversion, the ongoing costs of inputting records, and the time lag of including records which require original cataloging. Costs have continued to be a major issue as some libraries have imposed borrowing charges on other libraries as a means of recovering costs and deterring requests. Many libraries pass along borrowing charges to their users, and some libraries even impose a service charge upon their own borrowers.

While interlibrary loan has become a "big business" moderated through bibliographic utilities, it is still an informal process and the ground rules between libraries are much the same as in less automated times. Prior to the creation of bibliographic utilities, borrowing libraries mailed requests to specific libraries which they knew either owned or were likely to own the materials. The potential lending library either supplied the materials, responded by mail why they could not supply, or forwarded the request to another potential lender. The responsibility between requesting and supplying libraries was direct and accountable, albeit slow.

The formal mechanism of the utility may have, in fact, made libraries feel less responsible for interlibrary loan than in a time when requests were addressed to a specific library. Typically, requesting libraries search a utility's database for libraries which own the needed material and electronically transmit the request to a string of potential lenders which have the option to respond negatively or positively or not at all. It seems that greater access has decreased the responsibility of individual libraries to lend their materials.

Performance standards for handling interlibrary loan requests have not been discussed in the literature, although there are a few studies of turnaround time for filling interlibrary loan requests. A 1986 study of the OCLC interlibrary loan subsystem discovered that it took a mean of 12.69 days from the time a request was entered into OCLC until the item was received. The author claimed that a comparison with other studies of the OCLC interlibrary loan subsystem indicated that this time span had varied little since 1979.[12] In Herbert White's recent article in Library Journal, he asked librarians to view interlibrary loan as a form of expedited acquisitions. White proposed a standard of two-day turnaround time for interlibrary loan requests.[13] Currently this standard seems highly unlikely in other than selected special situations.

A survey of selected libraries in San Antonio and of several liberal arts college libraries was conducted by the authors. We found that most of these libraries do not routinely keep track of turnaround time. Since libraries do not appear to consider staffing interlibrary loan at a level to meet the standards suggested by White a priority concern, and since few libraries even know how fast they are able to deliver materials and have not calculated turnaround time other than that supplied by a utility such as OCLC, improvement would require some major reallocation of resources. A 1983 study sponsored by the Council on Library Resources (CLR) found "no evidence that there is a demand for improvement in document delivery from either users or librarians."[14]

When interlibrary loan was first introduced, it was innovative and a great time saver, since users did not have to travel to distant libraries. In our experience, automation has brought increased expectations for rapid delivery of materials and raised users' expectations of what is available and how quickly it can be provided. They do not want to listen to a litany of reasons for possible delays; they want quick and reliable delivery of materials. Inhouse library services can be promised at a particular date and time, but with interlibrary loan and dependence on other libraries, response time cannot be controlled. The CLR study found that 95 percent of the interlibrary loan materials were transmitted through the U.S. Postal Service and commented on the slow turnaround or satisfaction time. "It should not require an average of 10 to 16 days for a patron to get an item held by another library, nor for the transit time to be an average of 6 days or more."[15] The 1986 edition of the ALA World Encyclopedia of Library and Information Services claims that interlibrary loan suffers from "low satisfaction rates, delays, high costs, and low confidence."[16]

FUTURE: A WINDOW OR WINDOWPANES?

Automation, which initially opened the window to a wide variety of information sources for many libraries and library users, seems to be changing to a series of windowpanes with limited or expensive access to the widest world of library resources. Since the U.S. system is decentralized, unlike the centralized system through the British Lending Library, there is little control over response, and libraries often find it necessary to work out individual arrangements to ensure delivery of materials. Most libraries report that they try to do their best, but there is little accountability for performance in the informal arrangements for sharing materials with loose procedures.

Recent years have seen the growth of many informal or formal arrangements between libraries. Libraries with large numbers of resources have joined together in groups and set their own standards and priorities for resource sharing. These groups often charge large sums to provide access to their materials for non-members. OCLC is divided into regional networks whose members give preferential treatment in terms of free and expeditious service. The geographical basis of interlibrary loan which began during an era that depended upon mailed requests seems to still predominate. Some members of utilities have not agreed to the interlibrary loan agreement of their networks and charge other member institutions for the service. In this fragmented landscape of library cooperation, the small college library, without the resources to subsidize its users' interlibrary loan requests, finds itself in the precarious position of being a net borrower relying upon the goodwill of other, often larger, libraries.

Some libraries have taken steps to improve the speed and dependability of document delivery. Telefacsimile, while not new, is offering expanded opportunities to provide quick access to materials. Even with this technology, the lending library must be relied upon to handle the request, retrieve, photocopy and transmit the material. Commercial document delivery services are an option for libraries with the resources to absorb the costs. One library, which had relied upon interlibrary loan for out-of-scope materials, decided when considering the cancellation of significant research journals to utilize commercial document delivery services. "Because of slow turn-around times, ILL was not considered to be an acceptable option for these canceled in-scope titles."[17] Yet a recent study has challenged this assumption, finding that commercial document suppliers fail to provide materials more quickly than interlibrary loan suppliers.[18]

Has the information delivery environment changed so dramatically since interlibrary loan became a practice in libraries that it no longer meets the needs for access to materials that are not held in-house? At Trinity University we found that even though the collection has been growing at a rapid rate, interlibrary loan requests have also been increasing. Since desired materials are not always available from commercial document delivery services, we have taken a variety of steps to improve the delivery of interlibrary loan materials. Special arrangements have been set up with a nearby research library; records of turnaround time have been kept and performance standards are being discussed in the local consortium; additional staff and resources are being assigned to the unit; and new agreements are being developed with other academic libraries in the region to improve responses to requests and delivery of materials.

CONCLUSION

Despite technological advances, in-house processing and handling of requests still present major obstacles to expediting interlibrary service. Is this "old" service important enough that libraries are willing to devote the staff and resources to meet performance standards and move from the goodwill practices of responding as quickly as possible to contractual agreements that set standards and create expectations? For the time being there is no clamor for major changes. The CLR report reluctantly concluded "that the actual performance of the system has done an excellent job of convincing users to wait.... The expressions of concern about improved document delivery appear to be coming from leaders in the profession who are looking forward to greater resource sharing as a means of coping with ongoing fiscal constraints."[19] If libraries are to remain a vital and credible link to information in an age that increasingly stresses quick access, they must be willing to set delivery standards and absorb the costs of this important service.

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OUTCOMES OF PRINT AND ONLINE READY REFERENCE SEARCHES:
SUMMARY OF AN EXPERIMENTAL STUDY

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Abstract. Results of using online sources to answer social science ready reference questions were compared to the results of using print sources. Sixty-one experienced reference librarians each searched the same set of 12 questions; half the subjects used online sources; the other half, print sources. Efficiency and success were compared by question type to look for possible interactions between question type and treatment.

Online was significantly more efficient in answering bibliographic citation questions and also achieved higher recall without affecting precision. Print sources were twice as efficient in answering factual questions. Treatment had no significant affect on recall or precision when searching factual questions.

Keywords and Phrases. Ready reference. Online sources. Print sources. Reference services - evaluation. Reference materials.

INTRODUCTION

Researchers have consistently found reference staffs provide complete and correct answers to queries only some 55% of the time. [1] Reference librarians are justifiably concerned by these findings and are striving to improve their success rates. One major trend has been the use of online databases at the reference desk. Proponents of such services believe that use of online sources can increase both efficiency and success rates, [2] but little research has been done to determine if this is actually true.

This study investigated whether the format in which information is stored affects the outcome of reference transactions. Results of using online sources to answer social science ready reference questions were compared to the results of using print sources to answer those same questions. Efficiency (the time required to complete a transaction) and success (the provision of correct and relevant information) were compared for the two treatments. In addition to reporting overall efficiency and success, outcomes were also analyzed by question type to look for possible interactions between question type and treatment. Results of searching for bibliographic citations and for answers to factual questions were analyzed separately.

The design of the study required all subjects to search the same set of 12 questions. Six of the questions requested bibliographic citations, and six asked for factual information. Three of the bibliographic questions involved only one concept (for example, articles on the Parents' Music Resource Center), and three involved two-concepts (for example, test anxiety in college students). Factual questions were evenly divided between verification and directory questions. Subjects were randomly assigned to one of two treatment groups. Half of the subjects searched using online sources; the other half searched using print sources.

SUBJECT PROFILE

The 68 subjects in this study were all experienced reference librarians who were currently working in doctorate-granting institutions in the Eastern Time Zone. Each answered social science questions as part of her or his normal duties and had at least one year's experience in working with both print and online sources and used both in her or his work. All had worked in their current departments for at least one year. These criteria were intended to assure that all subjects would have worked with the types of questions which the study used, that they would have experience with the formats in which they would be searching, and that they would have access to large print reference collections with which they were familiar.

Subjects worked at 38 different institutions spread across 16 states and the District of Columbia. A statistical portrait of the 68 subjects was compiled from data which they supplied on information forms. Forty-nine subjects (72.1%) were female, and 19 (27.9%) were male. The mean time which subjects had spent as professional librarians was 10.7 years; the median was 9.0 years. Only three subjects (4.4%) had been professional librarians for fewer than three years while eight (11.8%) had 20 or more years of professional experience.

Subjects had worked in reference for a mean of 8.9 years; the median was 8.0 years. They had been in their current departments for a mean of 6.3 years; the median was 4.7. Subjects indicated that they had been searching commercial databases of a mean of 5.7 years (median, 5.2 years) and that they had worked with print sources for a mean of 10.7 years (median, 9.7 years).

Subjects worked a mean of 13.1 desk hours during a typical week and handled a mean of 126 reference questions. Subjects performed a mean of 8.0 database searches per week and did a mean of 4.1 online ready reference questions.

DATA COLLECTION

After subjects were randomly assigned to one of the two treatment groups (print or online), packets containing instructions and the set of 12 questions were mailed to each. Subjects were instructed to perform all searches in their own library environments, using resources and equipment with which they were familiar. They were asked to search questions within two weeks and return materials in the postage paid envelopes which were included in each packet.

The instructions to the online group included multiple passwords for DIALOG and BRS, the only two vendors which the majority of subjects reported searching regularly. Charges for searching these passwords were paid for by grants from the vendors rather than the subjects' institutions. Subjects were also told that they could search other vendors which they felt were appropriate and that all online charges from such searches would be paid by the researcher.

Follow-up telephone calls were made to all subjects who had not returned packets within three weeks from the mailing date. Postcards were sent to those who could not be reached by telephone. All responses received within 45 days of the initial mailing were included in the tabulation of data.

This procedure resulted in the return of completed packets from 61 subjects, a response rate of 89.9%. Response rates from the two treatment groups were virtually identical. Subjects in the print treatment group returned 31 completed packets (91.1%)and those in the online treatment returned 30 (88.2%).

Since each subject searched 12 questions, the return of 61 packets resulted in a total of 732 individual searches to be analyzed. This included 360 online searches and 372 manual searches. Two searches in the print treatment group used sources which fell outside the print definition. (In one case, a subject made a telephone call; in the other, the subject used OCLC.) The exclusion of these two searches resulted in a final set of 730 searches, which were analyzed using the computer software Statistical Analysis System (SAS).

As the subject profile indicated, librarians in this study had a high average level of experience with both print and online sources. If, however, subjects were working with types of questions which they did not normally encounter, this might have negated some of their experience. Each question form therefore asked, "Was this a type of question which you receive in your normal work environment?" Out of 718 responses to this query, 710 (98.9%) were affirmative. Subjects were working with questions which approximated those which they received in their own library settings.

FINDINGS

Analyses of the relative efficiency and success of the two treatments and of possible interactions with question type were done separately for the bibliographic citation and factual questions since the tasks involved in working with the two types of questions were different. (For each bibliographic citation question, subjects were asked to provide 10 citations; for each factual question, subjects needed to provide only one fact.)

Since this study was interested in the outcomes of the two treatments for ready reference questions, subjects had been instructed to spend no more than 15 minutes working on any one question. This time restriction needed to be followed for all searches or results would not have been comparable. Therefore, any searches which exceeded 15 minutes or for which times were not reported were excluded from the analysis of outcomes. This resulted in the reduction of the total number of searches upon which outcome analyses were based from 730 to 675.

Since the researcher was interested in analyzing data at the question type level rather than at the level of the individual question, each subject's scores within a single question type were combined and averaged to create a single composite figure for each dependent variable at the question type level. These composite figures were used to calculate all outcome data.

For the bibliographic questions, an ANOVA (analysis of variance) was performed on the variable, time, which was used to measure efficiency; a MANOVA (multivariate analysis of variance) was done on a cluster of variables which all measured success. A probability level of .05 was required for differences to be considered significant.

Bibliographic Citation Questions

As Table 1 shows, the mean time which subjects spent on each bibliographic citation question was just over 10 minutes. Mean time for the print treatment group was over two minutes longer than the mean time for the online group. A parallel difference of over two minutes was observable between question types with two-concept questions requiring more time than one-concept questions.

TABLE 1:
MEAN TIME FOR BIBLIOGRAPHIC CITATION QUESTIONS

Question Type	Treatment		
	Print n=29	Online n=30	Combined n=59
One-Concept	9.9 min.	8.5 min.	9.2 min.
Two-Concept	13.1 min.	9.8 min.	11.4 min.
Combined	11.5 min.	9.2 min.	10.3 min.

The ANOVA for time indicated that interactions between treatment and question type were significant at the .05 level (*F*(1,57)=17.31). Follow-up analyses to see where the significant differences lay indicated that all cells were significantly different from each other.

The MANOVA on bibliographic citation questions showed no significant interactions between treatment and question type, but both treatment and question type had a significant effect on success. Table 2 gives figures for requested recall, and Table 3 shows precision.

TABLE 2:
REQUESTED RECALL FOR BIBLIOGRAPHIC CITATION QUESTIONS

Question Type	Treatment Print n=29	 Online n=30	 Combined n=59
One-Concept	82.4%	91.5%	87.0%
Two-Concept	65.1%	83.4%	74.4%
Combined	73.8%	87.4%	80.7%

TABLE 3:
PRECISION FOR BIBLIOGRAPHIC CITATION QUESTIONS

Question Type	Treatment Print n=29	 Online n=30	 Combined n=59
One-Concept	93.8%	93.6%	93.7%
Two-Concept	88.6%	87.4%	88.0%
Combined	91.2%	90.5%	90.8%

Requested recall was over 87% for the online treatment group but was less than 74% for the print subjects. Treatment differences in requested recall for two-concept questions were twice those for one-concept questions. Overall precision for bibliographic questions was just over 90%. Treatment did not have a significant effect on precision; however, question type did. Precision was 5.7% lower for two-concept questions than it was for one-concept questions.

Success in answering bibliographic citation questions was calculated in one additional way. The researcher went back to the question level data and categorized each bibliographic search as either having completely answered the request (10 correct citations supplied) or as having failed to have completely answer the request (fewer than 10 correct citations supplied). Table 4 illustrates the pattern which emerged when the 313 bibliographic searches in the study were analyzed in this manner.

TABLE 4:
PERCENTAGE OF SEARCHES FOR WHICH THE TOTAL REQUESTED NUMBER OF CORRECT BIBLIOGRAPHIC CITATIONS WERE SUPPLIED

n=313

Question Type	Treatment Print	 Online	 Combined
One-Concept	66.7%	70.1%	68.6%
Two-Concept	29.6%	71.1%	52.0%
Combined	48.3%	70.6%	60.4%

In Table 4, treatment results were not significantly different for one-concept bibliographic questions, nor were the question type results significantly different within the online treatment group. However, outcomes within the print treatment group differed significantly across question types. Print subjects completely supplied all requested information for one-concept bibliographic questions more than twice as often as they succeeded in doing so for the two-concept questions (66.7% versus 29.6%). Subjects in the online treatment group did not show any significant variation across question type and performed significantly better than the print group on two-concept bibliographic questions. Online subjects completely answered two-concept questions over 70% of the time whereas print subjects completely answered such questions less than 30% of the time.

Factual Questions

The analysis of subjects' efficiency and success in answering factual questions paralleled the analysis of bibliographic citation questions. However, findings contrasted sharply. As Table 5 shows, the interaction between question type and treatment had a significant effect on time (*F*(1,59)=72.18). The mean online search time for each factual question was over twice the mean of the print time. In the case of directory questions, print was nearly three times faster.

TABLE 5:
MEAN TIME FOR FACTUAL QUESTIONS

Question Type	Treatment Print n=31	 Online n=30	 Combined n=61
Verification	3.9 min.	5.5 min.	4.7 min.
Directory	2.6 min.	7.7 min.	5.1 min.
Combined	3.2 min.	6.6 min.	4.9 min.

The marked time advantage for print sources would be of no practical significance if it had been achieved at the expense of success. However, as Tables 6 and 7 illustrate, treatment had no affect on either precision or recall for the factual questions. Both were extremely high, over 90%.

TABLE 6:
PRECISION FOR FACTUAL QUESTIONS

Question Type	Treatment		
	Print n=31	Online n=30	Combined n=61
Verification	100.0%	98.9%	99.5%
Directory	92.5%	93.9%	93.2%
Combined	96.2%	96.4%	96.3%

TABLE 7:
RECALL FOR FACTUAL QUESTIONS

Question Type	Treatment		
	Print n=31	Online n=30	Combined n=61
Verification	93.5%	96.7%	95.1%
Directory	92.5%	84.4%	88.5%
Combined	93.0%	90.6%	91.8%

CONCLUSIONS AND IMPLICATIONS FOR THE PROFESSION

This study's success rates for both bibliographic citation and factual questions were much higher than findings reported in earlier studies such as those by Hernon and McClure. Higher success rates may be partially due to the nature of the subject population who were volunteers willing to give considerable time to the study. There is probably also a Hawthorne effect at work here; subjects knew they were being evaluated and therefore performed at a higher level than they might have done in an unobstrusive study. However, this study was designed to compare the relative performance of the treatments, and since the subjects were randomly assigned from the same pool, there is no reason to believe that the relative outcomes do not reflect the potential benefits of the treatments although efficiency and success may be lower in actual work situations.

The relative benefits of using print or online varied according to question type. Print sources were more efficient in answering source questions, but online was more efficient in answering bibliographic citation questions. According to earlier studies, the average reference question requires less than 5 minutes of staff time.[3] Librarians in this study spent a mean of 4.9 minutes on factual questions, paralleling those earlier findings, and a longer 10.3 minutes on bibliographic citation questions. The mean online search time per factual question (6.6 minutes) was over twice the mean of the print source time (3.2 minutes). In contrast, the mean time of online searches for bibliographic citation questions was 2.3 minutes less than the mean time required to search those same questions using print formats.

What are the practical implications of these differences? In a busy reference department, the cumulative effect of differences of two to three minutes per question can be quickly felt. Subjects in this study reported answering a mean of 126 reference questions per week. A time savings of two minutes per question would amount to over 250 minutes (more than four hours) per week per librarian. A savings of three minutes would equal over 6.25 hours per week per librarian. Thus, if a reference librarian works a 40-hour week, making the most appropriate format choice could potentially free 10 to 15% of his or her time for answering additional queries or working on other tasks.

Time savings would not matter if they were achieved at the expense of providing correct answers to questions. However, this study indicates that choosing the most efficient source does not have a negative effect on success rates. Treatment had no significant effect on success rates for source questions; and for bibliographic citation questions, the most efficient treatment, online, was also the most successful, increasing recall without any sacrifice of precision. The online advantage was evident for both one and two-concept bibliographic questions and increased with the complexity of the question. The difference between treatments in requested recall was 9.1% for one-concept questions and 18.3% for two-concept questions. Thus, the relative advantage of using online rather than print sources was over twice as great for two-concept questions.

What are the practical implications of these results for library managers? In recent years, many reference departments have invested heavily in new technology as it became available. Such expenditures were motivated by the belief that technological advances could improve reference services and lower the 45% failure rate evident in many studies of reference success. However, managers have been making these decisions without the availability of research results to help them make informed decisions. The results of this study provide some guidance to these library managers. Patterns for both reference collection development and reference service emerge. Indexes and other sources used to provide bibliographic citations should be acquired in online rather than print formats when a choice exists since the online format proved to be more efficient and successful in providing bibliographic citations. Materials for answering factual questions should be collected in print formats since they were shown to double efficiency without affecting success.

Recommendations for use parallel recommendations for collecting. If information is available in both formats, use print sources to answer factual questions and online sources to answer bibliographic citation questions. Subjects indicated that they normally used print sources in answering one-concept questions and reserved online for more complex questions. Results of this study demonstrate that use of online sources generally improves performance even for simple one-concept bibliographic citation searches. The relative benefits were even greater for more complex questions.

The researcher recognizes that the patterns shown here were all for social science questions and may vary for other disciplines. He also realizes that additional factors such as economics enter into reference management decisions. If, however, our primary objective is to provide correct information in a timely and efficient manner, our priorities must emphasize the selection of formats which increase the chances of successful transaction outcomes.[4]

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DESIGN AND TESTING OF MICROCOMPUTER INTERFACE SOFTWARE FOR END-USER SEARCHING

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Abstract. Academic libraries are providing end-user access to periodical citation databases as a component of online catalogs, in optical disk format, as end-user remote searching services, and as stand-alone local retrieval systems. Studies of end-user search services show that users are enthusiastic about performing direct searches, but experience problems with search strategy formulation and the use of Boolean operators. The user interface plays a critical role in the retrieval of information from subject-rich bibliographic databases. This paper reports on a project to identify and test interface features that can address the identified problems associated with end-user searching and facilitate effective access to bibliographic databases. These interface design features can be used in any end-user search setting. The paper will present the results of a statistical study and features analysis based on the administration of questionnaires, transaction log analysis, and focused group interviews.

Keywords and Phrases. End-User Searching, Interface Software, Microcomputer Workstations, Database Searching.

INTRODUCTION

End-user search services allow direct (as opposed to mediated) user access to online bibliographic databases, particularly indexing services providing access to the periodical literature. Advances in online and optical technologies have spurred a dramatic increase in end-user searching activity over the last several years. Academic libraries now provide end-user access to periodical citation databases residing in: 1) local, stand-alone systems such as augmented online catalogs, optical disk retrieval systems, or discrete local online systems such as BRS ONSITE; and 2) remote bibliographic vendor systems, particularly the less-expensive after-hours services. It appears that a variety of fixed-cost search options will be available in the future.

Numerous end-user search services have been reported in the literature; a comprehensive review of end-user searching appeared in the 1987 Annual Review of Information Science and Technology.[1] Use studies of these direct end-user search services show that:

1) users are enthusiastic about performing searches on easy to use, quickly learned, inexpensive search systems;
2) the searches performed are often not as effective as searches performed with intermediaries;
3) search strategy formulation is the most troublesome problem for end users;
4) end users have considerable difficulty with Boolean logic;
5) end-user search services demand a significant investment of library staff time in training and assistance; and
6) end users resist formal training sessions and the use of printed instructions, preferring CAI and direct one-to-one instructions from library staff or peers.

In addition, much information about user searching behavior has been gleaned from online catalog use studies. These studies reveal that users experience the most difficulty with subject searching and rank subject search improvement as a high priority in suggested system changes.[2,3,4] In addition, users indicate a need for enhanced access to periodical literature. An in-depth statistical analysis of online catalog user questionnaire results suggests that a different type of user-system interface may be necessary for effective subject searching.[5]

The results of the end-user and online catalog use studies have important ramifications in the design and development of effective user interfaces for bibliographic retrieval systems. The interface plays a particularly critical role in the searching of bibliographic retrieval systems which employ sophisticated information retrieval techniques and contain records with subject-rich fields, including abstracts, descriptors, and identifiers. In academic libraries, periodical citation databases with these features are offered as a component of online catalogs, in optical disk format, as end-user remote searching services, and as stand-alone local retrieval systems.

Clearly, advances in interface design can be applied to online catalogs, online periodical citation databases, and optical disk search systems. Providing assistance to users in search strategy formulation and modification appears to be the area of greatest need in interface design. It has been suggested that expert system techniques be applied in providing assistance in search strategy construction.[6,7]

This paper reports on a study designed to identify and test expert system design features for a microcomputer-based end-user interface to remote bibliographic retrieval systems. Interface software was developed to permit end-user searches of commercial database vendors to be performed as a search option within the local online catalog. The project sought to determine if expert system interface features could address the reported problems associated with end-user searching and facilitate effective end-user searching in online bibliographic systems.

Evaluative studies of the interface software developed in this project were conducted employing user questionnaires, transaction log analysis, and focused group interviews. A statistical analysis of user questionnaires and search results has been conducted looking for relationships between demographic variables, search satisfaction, and search results. The project examined interface design issues, particularly measures to facilitate search strategy formulation and software mediated strategy modification protocols.

INTERFACE FEATURES

Microcomputer interface software for end-user searching of remote databases was developed and tested at the University of Illinois at Urbana-Champaign (UIUC) Library. The software was developed under a campus-wide grant from IBM and a complementary grant from the Council on Library Resources. The customized interface software, which has been in use at the Engineering and Biology Libraries since July 1987, provides access to databases on BRS and DIALOG. The interface attempts to address the identified problems of end-user searching and seeks to facilitate direct user searching. The UIUC Library employs an online catalog utilizing microcomputers as patron terminals. The remote searching feature is presented as an option in the online catalog menu and the project has studied linking retrieved periodical citations with local holdings and availability information in the online catalog.

The project software features include:

1) guided assistance in search strategy formulation;
2) offline generation and storage of search strategy;
3) term selection from customized thesaurus displays;
4) software formulation of Boolean statements;
5) automatic truncation and stopword removal;
6) replacement of user-entered terms with terms from pre-defined substitution table;
7) uploading of strategy and ranking of resultant search set combinations;
8) software modification of search strategy to optimize results;
9) dynamic modification of search strategy based on user feedback;
and
10) selective downloading and printing of citations and search history.

Various interface screen displays will be presented as overheads at the conference. The expert system software approach seeks to expedite the search process for end users of periodical retrieval systems.

EVALUATION

The questionnaires administered to users gathered background information, including age, gender, university status and major; previous library and online catalog use; previous computer experience; and previous searching experience. The questionnaire also asked users to report satisfaction with search results, percentage of relevant citations, ease of use, problems associated with online searching, comparison with printed secondary tools, and ability to use the search software. A site monitor form is also filled out for each search session, reporting the number of times assistance is requested and the type of assistance, user's ability to use the keyboard and search system, and enthusiasm for searching. A statistical analysis of some 500 user questionnaires covering over 1,000 searches has been conducted, compiling frequencies and setting up cross-tabulations of the variables using a Chi-Square analysis. Detailed results of this statistical analysis will be presented at the conference. Overall, 96% of the users rated the system easy to use, 89% were satisfied with search results, and 62% of the searchers indicated that one-half or more of retrieved references were relevant.

The transaction log analysis and focused group interviews have also provided a great deal of insight into end-user searching behavior. Among the findings:

1) A truncation algorithm is necessary. Users tend not to think about entering plural forms. The algorithm employed by the interface appears to perform satisfactorily;
2) The "NOT" operator is needed in a small, but significant number of searches;
3) Users are unaware of basic set-theoretic concepts; they often enter specific terms that are subsumed within already entered broader terms (e.g. "earth metals" OR "alkaline earth metals");
4) Users enter very specific multiword phrases as search terms. It is important for the interface to employ less restrictive proximity operators (WITH/NEAR as opposed to ADJ);
5) The software manipulation of resultant search sets has proven useful;
6) A large percentage of users require a relatively small number of references; however limiting retrieval to 20 references is a problem for a fairly high number of users;
7) Online modification of search strategy is needed, but is not trivial to set up and perform in some searches.

Overall, this project has demonstrated

that end-users are willing to use a menu-driven interface containing instructional material and can be assisted in the performance of effective online searches of bibliographic databases. The project has identified several areas of interface design that need further development.

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BRS AFTER DARK AT THE UNIVERSITY OF ARIZONA LIBRARY

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Abstract. *The QuickSearch Service is an end-user online searching program being offered by the* University of Arizona Library. The service was implemented in the fall of 1985 and, through BRS After Dark, offers UA faculty, staff, and students, do-it-yourself access to over 100 bibliographic and full-text databases. The program is fully subsidized by the Library and equipment and training is provided. This paper describes the history of the QuickSearch service, current policies and procedures, and the results of three years of experience in providing end-user online searching on a campus-wide basis.

Keywords and Phrases. End-user searching; Academic libraries; BRS After Dark.

HISTORY OF END-USER SEARCHING AT THE UA LIBRARY

The UA Library provides a variety of end-user searching opportunities for University faculty, staff, and students. In 1984, the CAS Online (Chemical Abstracts Service) system was made available through the UA Library for campus-wide end-user searching at no cost to the searcher. The success of this service, combined with the desire of the Library to provide the campus community with convenient and affordable access to a wider range of databases, led to the proposal for a new library subsidized end-user search service. This proposal was made early in the spring of 1985 by members of the Library's Computer Assisted Reference Service (CARS) Coordinating Committee. (This committee is composed of the Assistant University Librarian (AUL) for Central Services, the AUL for Branch Services, the heads of the two departments offering extensive online search service -- Central Reference and Science Reference, the CARS Coordinators for those same departments, and the Education & Training Coordinator.) The committee evaluated the various options in vendors (primarily Dialog's Knowledge Index and BRS's After Dark system), and presented two possible budgets based on different levels of usage - 75% or 100%. An average search session cost of $5.00 and a maximum of 2940 search sessions (7 twenty-minute sessions per evening x 5 evenings per week x 42 weeks of service x 2 search sites) were assumed.

The CARS Coordinating Committee recommended BRS After Dark as the vendor for the service. After Dark was chosen over Knowledge Index for several reasons: 1. There was a wider range of databases available on After Dark. 2. The average hourly rate on After Dark was $16.00 as opposed to Knowledge Index's flat rate of $24.00/hour. 3. The search protocols on After Dark seemed more flexible than those on Knowledge Index. 4. At that time (early 1985) Knowledge Index required payment by charge card - not a feasible option for a state institution.

In June 1985 the library administration approved the proposal and funded the new service at the 75% usage level. The budget for that first year was $18,896.00, which included start-up fees, online costs, student wages, and supplies (paper, printer ribbons, etc.) for two search sites. The new service did not require additional computer equipment since CARS terminals that were idle during evening hours would be used.

An ad-hoc planning and implementation committee was appointed and charged with coming up with recommendations for appropriate policies and procedures for successful implementation of the service. After identifying questions and issues that needed to be addressed, the committee broke up into two sub-committees; one to deal with policies and procedures, and the other to develop the necessary training materials for end-users.

The committees met frequently over a two month period and finally submitted their recommendations to the CARS Coordinating Committee along with a suggested name for the service. After reviewing the recommendations, the CARS Coordinating Committee gave it's approval. Sunday evening, September 29, 1985 was the inaugural day of the new QuickSearch service!

POLICIES

The following are the current policies governing the service:

The service is available campus-wide to all UA faculty, staff, and students. (Student enrollment is currently approximately 34,000.) These persons verify their eligibility by presenting a current UA photo-identification card at the time of their scheduled search. Service hours are Sunday - Thursday evenings, 6:00 - 9:00 p.m., in both sites and Saturday, 10 a.m. - 1 p.m. in Main; 1 p.m. - 4 p.m. in Science.

There is no charge to the searcher for this service. The UA Library is committed to supporting end-user searching by UA faculty, staff and students.

Patrons are responsible for preparing and executing their own searches. Preparation includes receiving the required training (to be described later) and developing their search strategy before each search.

Although QuickSearch is intended to be an unmediated end-user search service, there is a student search monitor in the room to log patrons on and off, to keep usage statistics, and to provide basic assistance as needed.

Patrons may schedule one QuickSearch session every two weeks. (In the summer they can schedule one search every week.) Patrons may make these appointments, either by phone or in person, up to two weeks in advance.

Patrons may search as frequently as they want on a walk-in basis. If a search appointment is open, either because no one has signed up for it or because the scheduled patron has cancelled or is more than 5 minutes late, then the walk-in patron may use that half-hour slot. Their names are not recorded on the appointment schedule.

If the patron is more than 5 minutes late for his appointment, his slot will be open for any walk-in patron. If the late patron arrives and no walk-in patron has taken the time slot, the late patron can retain his scheduled slot but any amount of time he is late will be deducted from his 20 minutes of online time.

If the patron does not show up at all for a scheduled appointment, and has not called to cancel, the appointment still counts as that patron's one scheduled search per two week time period. The patron may not schedule another appointment within two weeks of the missed appointment. He may, however, come in on a walk-in basis, as described above.

In the event of unforeseen problems (fire drills, computer down time, etc.), the patron may lose his search slot. In this case he can sign up for another appointment within the same two week period.

Appointments are available every half-hour during the hours of service. At least 20 minutes of each half-hour slot are "guaranteed" as search time. The remaining 5 - 10 minutes are used by the QuickSearch monitor for logging on and off, for statistics gathering, etc.

Patrons may print out (either on paper or downloaded onto diskette) a total of only 50 citations per search appointment.

PROGRAM ADMINISTRATION

The QuickSearch service has been integrated into the library's CARS (Computer Assisted Reference Service) program for administrative and budgetary purposes. Two librarians, one each from the Main Library (Central Reference Department) and the Science-Engineering Library (Science Reference Department), are appointed as QuickSearch Coordinators. Their responsibilities include:

-- Hiring, training, scheduling, supervising, and evaluating the QuickSearch student monitors.

-- Monitoring the budget allocation and the invoices from BRS After Dark.

-- Arranging workshops, including scheduling and training presenters, and updating or revising training materials.

The two QuickSearch Coordinators report to their respective department heads who serve on the CARS Coordinating Committee. Any decisions concerning major policy or procedure issues are made at the CARS Coordinating Committee level.

The daily operation of the program falls to the QuickSearch student monitors. To date, all but one of the monitors have been students in the University of Arizona Graduate Library School. While this has not been a criterion for hiring, the opportunity for practical online searching and public service experience has been so attractive to library school students seeking to strengthen their resumes that they have continued to vie for the available positions. They work from four to twelve hours per week and, as mentioned previously, are charged with checking patron eligibility, logging users onto the system, completing administrative paperwork, and providing basic search assistance.

END-USER TRAINING

To prepare patrons to do effective searches on the BRS After Dark system, the UA Library offers a 1.5 hour QuickSearch workshop presented by librarians on a weekly basis. Attendance at one of these workshops is required prior to using the system. The "ticket" to the first search (and confirmation of the patron's attendance at a workshop) is the QuickSearch Search Profile - a form given out at the workshop which the patron uses to work through the search strategy development process with his own specific topic.

To insure consistency of information presented, the original Planning & Implementation Committee developed a workshop script with transparencies and supporting handouts. The workshop covers search strategy development, use of Boolean operators, BRS After Dark commands, techniques for refining a search, and QuickSearch rules and regulations. There have been occasional revisions to the materials. Recently an online demonstration, using a LCD computer projection panel, has been added to the workshop.

As a means of review and reiteration of information presented at the QuickSearch workshop, a manual has been compiled. It consists of information from the BRS After Dark help screens and the downloaded "How to Use BRS After Dark" online manual. In addition, copies of several of the handouts from the workshop are included. This manual is available on Reserve in both libraries.

RESULTS

The QuickSearch program has grown each year - both in terms of use and budget required to support it. Publicity has been relatively low-key; mostly by word-of-mouth and through bibliographic instruction sessions or contacts at the reference desks. The searcher population has been shown to be made up of primarily graduate students (approximately two-thirds of the total) from a wide variety of disciplines.

Searching costs have increased. In 1985-1986 the average direct cost to the Library was $6.34 per search. It increased to $7.05 in 1986-1987, and in 1987-1988 increased again to $8.21 per search. The average connect hour charge, which in 1985 was $16.00, is now $20.39. Reflecting these increases (and in addition, a small increase in the student assistant pay rate), the total budget for the service has increased from $18,896.00 to $28,600.00

In the first year of the QuickSearch service (1985-86), statistics revealed a 20% decline in number of mediated searches. In the following year, mediated search statistics increased slightly from the previous year but still showed a 16% decline from "pre-QuickSearch" statistics. 1987-88 came back with a drop of 22% in number of mediated searches.

AFTER DARK SEARCHING STATISTICS

	85-86	86-87	87-88
Number of searches	1615	2135	2705
Usage rate	74%	77%	84%
Avg. cost/search	$6.34	$7.05	$8.21
Avg. connect hr. cost	$16.00	--	$20.39
% change in mediated searches*	-20%	-16%	-22%

*Compared to 1984-85 mediated search statistics.

As mentioned earlier, the QuickSearch budget is part of the overall CARS budget. As QuickSearch and other end-user search services (such as CASONLINE and the various CD-ROM databases) continue to affect the amount of mediated searching that librarians are doing, the amount of money allocated for mediated searching will most likely decrease and end-user searching budget lines will continue to increase.

CONCLUSION

The basic objectives of the QuickSearch program are being achieved. Students and faculty have a free alternative to mediated, fee-based searching. End-users, even those with limited knowledge of computers or information retrieval, can be taught to do satisfactory searches by providing carefully prepared training. Administratively, an acceptable balance has been struck between cost and benefits. The primary clientele is being provided a useful, in-demand service at a controlled, reasonable cost to the library with a minimum of professional time required to manage the service. Finally, there is the largely unmentioned but important benefit of helping to educate students, faculty and staff about the increasingly important area of automated information retrieval.

EXPERT SYSTEMS: NEW CHALLENGES AND OPPORTUNITIES

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Abstract. Expert systems offer challenges and opportunities never experienced before in academic libraries. For the very first time, library staff and users can now interact with machines that think. These "intelligent" machines can perform many of the same functions currently being done by librarians. Expert systems will: 1.) Allow the librarian to engage in more creative activities, and 2.) Provide an improvement in services for users.

Keywords and Phrases. Artificial intelligence; expert systems; knowledge base; shells; productivity; impact on users; impact on library staff.

During the past decade in academic librarianship there has been a major thrust to install online computing systems to assist with acquisitions, circulation control, serials control, and the public access catalog. Funds permitting, it is now possible for an institution to purchase any one or all of these systems. And these basic functions can be acquired in one package known as an integrated system. A significant improvement has occurred in library services as a result of this technology. Changes throughout the academic library construct have been fostered by the application of modern technology.

Building on the technological advances already made in academic libraries, a new phenomenon known as "expert systems" or "knowledge-based systems" provides the first real framework for the use of "intelligent' machines. The online systems currently used in libraries are run on machines that we "talk down" to; however, expert systems are now enabling us to have machines that "talk up" to us. There is, for example, a very large difference in sophistication between a library expert system and an online public access catalog. In short, expert systems offer a gigantic leap beyond any level of library technology experienced during the past century. Nevertheless, the lessons already learned from the application of technology in academic libraries will be of great benefit as we enter the 21st Century.

WHAT IS AN EXPERT SYSTEM?

First, it has to be understood that an expert system is a subset of artificial intelligence (AI). Many years of AI research have been devoted to studying the interaction between humans and machines. AI is a subfield of computer science concerned with designing computer systems that perform humanlike, intelligent functions. An expert system is essentially an intelligent computer program that uses knowledge and inference procedures to solve problems that are difficult enough to require significant human expertise for their solution. Knowledge necessary to perform at such a level, plus the inference procedures used, can be thought of as a model of the best practitioners in the respective field.[1]

The library expert system must rival the human system if it is to be considered a genuine expert system. It must be programmed with huge amounts of knowledge in order to have a comprehensive "thinking" capability. It must be able to do things that human expert systems do: to ask intelligent questions, solve problems, explain its reasoning, and justify conclusions.

Expert systems run on personal computers and they are commonly carried on skeletal systems known as "shells." A shell is a software package designed for the creation of specific expert systems. Examples of PC-shells are Expert Ease, Insight II, Guru, 1st Class, and Personal Consultant. Prices for these shells vary from $100 to a few thousand dollars.[2]

Following are the chief components of an expert system:

1. Knowledge base. This component embodies the human's expert knowledge about the problem domain. This is undoubtedly the vital part of the expert system. The knowledge base contains facts and rules; rules are presented in the "if this, then that" mode. Knowledge engineers work with librarians in gathering expert knowledge and coding it into the knowledge base. Library users rely on the knowledge base's comprehensiveness for answering complex questions.

2. Inference engine (the reasoning mechanism). The most important task of the inference engine is that of applying the knowledge in the knowledge base in order to reach some decision or assessment. This function not only controls, but interprets the search through the knowledge base. Two strategies are built into the system for control purposes: they are forward thinking (or data-driven or bottom-up control) and backward chaining (or goal-driven or top-down control).

3. User interface. The interface component allows the system to send messages to the user, and permits the user to communicate with the system. Users have, however, limited possibilities for interrupting dialogue with the expert system; this is a major shortcoming in the expert systems currently used in libraries.

4. Explanation mechanism. This part of the system explains to the user how and why a decision or assessment has been reached. The

user is entitled to know the rational basis of the system's decisions. It is normal practice for an expert system to justify its decision by displaying a list of steps taken to arrive at a particular decision.[3]

CHALLENGES

Expert systems will offer academic libraries more challenges than any other type of technology thus far introduced. The complexities and capabilities of the new systems are far reaching and will result in dramatic changes in the delivery of library service. Following are some of the more significant challenges offered by expert systems:

1. Creation of the knowledge base. The major challenge in developing library expert systems is the construction of a comprehensive knowledge base. Most of the library expert systems we have witnessed thus far are still in the experimental stage. Those systems attempted in reference service, for example, have been focused on specific subject domains. Why is this case? An effective expert system must be able to give correct answers to the questions it receives from library users. No one has yet devised an expert system that will replace a reference librarian. And no one has tackled the near impossible task of designing an expert system that will attempt to answer all types of reference questions on all subject areas.

The performance of an expert system is directly related to the function and size of its knowledge base. If the knowledge base is poorly designed, then one can only expect a terrible expert system. Nearly all of the current library expert systems address a narrowly-defined knowledge domain (e.g., the PLEXUS system limits its subject domain to gardening; POINTER deals with government documents only). It is customary to have a knowledge engineer work with a librarian during the building of the knowledge base. The engineer assists the librarian by interpreting and integrating human answers to questions, by posing analogies and counter examples, and by discussing other potential difficulties in the system. In the more refined expert systems, an explanation module is available which permits the user to examine and challenge the system's reasoning process.

2. Impact on library staff. The expert system will be the first machine in libraries to rival librarians. These "intelligent" machines may, in the minds of some, pose serious threats to their jobs. Robots, for example, are working in steel mills, serving drinks in bars, serving as a butcher in cutting meat, and doing some library work in Japanese universities.

The bottom line is that expert systems will never replace librarians; however, some specific library functions will be done as effectively by expert systems as by the library staff. It is normal for librarians to develop apprehensions when they learn of a machine that is able to think like human professionals. Loss of self-esteem through deskilling is not an uncommon thought among them. Transfer of intelligent activity from the librarian to the machine is a psychological aspect that is inescapable. All of the supposed adverse effects that anticipated proliferation of expert systems will have on library staff is open to debate. It is much too early to draw any pro or con summations on the psychological impact of expert systems on library personnel. A positive projection advocates expert systems improving the daily activity of the librarian by allowing more time for professional work.

3. Productivity. The use of academic libraries increases substantially each year. Librarians complain about not having enough staff to cope with the increasing workload. Responsibilities expand, burnout and boredom become commonplace, and the daily pressures mount for librarians. Expert systems, if designed and implemented properly, can ease these burdens and improve productivity. Librarians will be able to use their time in more constructive ways. Expert systems can be used to serve users during peak service hours. An expert system can be installed anywhere in the library to answer reference questions; in contrast to traditionally having only one or two locations for reference service. Catalogers can receive training via expert systems at their convenience in lieu of attending formal training sessions led by a librarian. Increased productivity via expert systems will not just happen; it requires careful planning involving all parties concerned.

4. Impact on users. "Improving services for its users" is a generic intent included in every library's mission statement. Expert systems offer the opportunity for making additional refinements in user services. ANSWERMAN is an expert system geared to assist users in finding answers to ready-reference questions. The subject of the question is delineated by utilizing a series of menus which assist with identifying the type of reference tool needed (i.e., atlas, directory, encyclopedia). Online Reference Assistance (ORA), developed at the University of Waterloo, is an expert system designed to help users in performing subject searches and locating publications to answer specific questions. In essence, ORA was designed to simulate the services of reference librarians.

It is uncommon to find librarians stationed at the reference desk at 2 a.m.; however, it is becoming more common for academic libraries to remain open until this late hour. An expert system can provide "reference service" 24 hours per day, and it does not suffer from fatigue or boredom. Expert systems are ideal for presenting bibliographic and other types of library instruction. They will be more consistent than humans in presenting library instructional programs in a systematic, deductive-reasoning approach. The trick is to design the library instructional expert system program primarily for the user, and secondarily for the librarian.

RECOMMENDATIONS

The most important ingredient in the introduction of an expert system is the planning that precedes the implementation process. Appropriate library staff must participate in the development or selection of the expert system. Most of the library expert systems in existence have been developed within the library; very few expert systems can be purchased from the marketplace. The library director has to display support of the concept and utility of expert systems, and it is crucial for the library staff to "buy into" them. The positive aspects of an expert system should be accentuated. The "fear" of an expert system replacing librarians should be de-emphasized; technology is only a tool (a means to an end).

The users should be kept foremost in mind during the design of an expert system. An expert system will be received better if it is kept as simple as possible. Frustrations resulting from the inability to communicate/interface easily with expert systems can severely dampen the enthusiasm for using them. Effective, user-friendly front ends to the expert system will enable the patron to interact with the computer using one's own terminology rather than that demanded by the software package.

A full-scale evaluation of the expert system has to be completed on a regular basis. Users, librarians, and knowledge engineers should participate in the evaluation. The best time to design the evaluation instrument is while the system is being built. Primary reasons for testing the expert system are to see if goals/objectives, program accuracy, and utility expectations are being met.

CONCLUSION

The expert system phenomenom is bringing a higher level of technology sophistication to academic libraries. Improved services for the users and better use of the librarian's time are obvious end products of expert systems. Successes and failures of our past experiences with library technology should serve as useful reminders as we enter the exciting expert systems era.

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THINKING LIKE A SEARCHER

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Abstract. The model examines what searchers know and how this knowledge is used to generate search strategies. Research suggests that in professional practice the effective searcher draws upon two kinds of knowledge: bibliographic knowledge about libraries and recorded information; and institutional knowledge about the agencies, groups, professions, and organizations that give rise to recorded information. The model is based on a review of library literature and protocol analysis of case studies of reference. The model has implications for general reference work, education for librarianship, bibliographic instruction, and development of expert systems for reference assistance.

Keywords and Phrases. search strategy, cognition, reference, expert systems, education for librarianship.

INTRODUCTION

Reference work is a complex activity requiring knowledge of a wide range of sources, an understanding of bibliographic and library organization, an analytical mind, good communication skills, the ability to be flexible and to think creatively during the course of a search.

For example, a client comes to the science desk and asks about solar energy projects overseas. During the question negotiation, the librarian learns that he is a chemical engineer seeking work abroad. How can he identify prospective employers?

The librarian suggests directories of international research institutes, industrial labs, architectural and engineering firms, and American companies with facilities overseas. Direct contact with economic development agencies that fund solar projects, such as the Agency for International Development (AID) might be helpful. Perhaps AID distributes a list of funded projects.

How does the searcher make these mental leaps from query to answer sources? What does it mean to think like a searcher?

Research in artifical intelligence and cognitive psychology, and the development of expert systems have yielded models for talking about "expert knowledge." Key concepts in these models are the knowledge base of the searcher (i.e., what the expert knows); the "semantic network" (i.e., how that knowledge is organized); and how the knowledge based is used in the course of a search to solve a problem.

There is a growing understanding of how various professionals think and solve problems. There are expert systems for medical diagnosis, investing, prospecting; but scant literature on what goes on in the mind of a reference librarian or online searcher as this professional does his or her job. The few expert systems for reference assistance that exist tend to be limited to narrow subject domains, such as biography, horticulture, government documents, and agriculture.

The model I will be presenting to you today is the result of preliminary research on the mind of the searcher. The model attempts to describe what the searcher knows and how the searcher reasons during the course of a search.

It addresses the question, "How do searchers conceptualize and process a reference question so links are made between the query and the information environment?"

METHODOLOGY

The initial work on the model was begun in 1982 for my masters thesis. In creating the model, first I reviewed library literature on the subjects of search strategy, the reference process, and education for librarianship. The literature yielded fragmented, incomplete, and somewhat superficial views of the reference process that stressed behavior rather than cognition. However, several researchers, notably Marcia Bates[1,2]; Benson and Maloney[3]; Neill[4]; Swift and Winn[5]; and Patrick Wilson[6], contributed evocative ideas that I incorporated into the model.

I supplemented the literature review with an analysis of 15 published case studies of reference by British librarian Denis Grogan.[7,8] Grogan's two-volume set is unique in that each case contains descriptions of his reasoning and decision-making steps, allowing a thinking-out-loud protocol. I selected the cases to balance length, complexity, difficulty. I supplemented Grogan's cases with cases of my own or cases collected unobtrusively from colleagues at the reference desk in local branches of a public library, and in the business and science department of a downtown central library.

This recent revision of the model is based on a literature review on the subjects of online search strategy, instruction for end-user searching, and expert systems for reference assistance and an ongoing protocol analysis of cases collected during the 1987-1988 academic year at the science desk in a university library. During my review of current literature, the work of Michael Kerezstesi[9] was particularly useful.

RESULTS

The model is a picture of the knowledge base of the searcher and a description of how this knowledge is encoded and used in the course of a search.

In explaining the model, I will start with the contents and structure of the knowledge base. This is followed by examples showing how the knowledge is put to use in the course of a nontrivial subject search.

Contents and Structure of the Knowledge Base

The research suggests that the mind of the professional reference librarian holds two kinds of knowledge: bibliographic knowledge and "institutional knowledge." These two parts of the librarian's knowledge base function as complementary memory files that allow the searcher to make the mental associations necessary to bridge the gap between the client's question and the information environment.

Bibliographic knowledge comprises knowledge of classes of library materials (see Figure 1). For example, in this part of the knowledge base the librarian encodes substantive and comparative information about periodicals versus books; technical reports versus fiction; current sources versus historical sources.

GENRES
Science Fiction
Westerns
Romances
Novels
Mysteries
Bibliographies
Nonfiction

FORMATS AND MEDIA
Books
    Oversized
    Large Print
Films
Videocassettes
Audiocassettes
Maps
Paperbacks

TERTIARY SOURCES
Desk Reference
Ready Reference
Reference
Handbooks
Encyclopedias
Dictionaries
Directories
SECONDARY SOURCES
Newspapers
Journals
Magazines
Pamphlets
Technical Reports
SUBJECT COLLECTIONS
Engineering
Horticulture
Social Sciences
Business
Law

Fig. 1. What the searcher knows: Classes of library materials

Institutional knowledge is knowledge of the agencies, organizations and professional groups that generate information; i.e., primary or generative sources from which documents arise (see Figure 2). Knowledge about institutions includes knowledge of subject scope or jurisdiction, and knowledge of information flow within the institution.

ACADEMIA
PROFESSIONAL ASSOCIATIONS
TRADE ASSOCIATIONS
CIVIC GROUPS
RELIGIOUS GROUPS
FEDERAL GOVERNMENT
CITY HALL
REGULATORY AGENCIES
LEARNED SOCIETIES
FOUNDATIONS
GARDEN CLUBS
PHOTOGRAPHY CLUBS
ANTIQUE CAR CLUBS
NEWSPAPER PUBLISHERS
TRADE MAGAZINE PUBLISHERS
CONSUMER MAGAZINE PUBLISHERS

FREE-LANCE WRITERS
CONSULTANTS
LAW FIRMS
BASEBALL LEAGUES
FOOTBALL LEAGUES
SOCCER LEAGUES
SCHOOL DISTRICTS
HOSPITALS
SOCIAL WELFARE
CITIZEN GROUPS
ZOOS

Fig. 2. What the searcher knows: Classes of institutions and professional groups

The relationship between bibliographic knowledge and institutional knowledge is profound. From the information specialist's point of view, societal institutions are "knowledge producing and dissemination systems," and the human activities that generate information are "actions with bibliographic implications," or pre-bibliographic events.[7] Thus institutional knowledge is the deep knowledge that underlies library knowledge. Its purpose is to evoke connections to search paths that are overlooked when the searcher thinks exclusively in bibliographic terms.

Now let us go deeper and look at the way the librarian mentally encodes knowledge of libraries, documents, and institutions. The research suggests that the searcher encodes this knowledge at a high level of abstraction. What is encoded in addition to titles and classes of documents and institutions, are the attributes of library materials and institutions (see Figure 3).

Attributes are labels that describe libraries, documents, and institutions by such parameters as scope, jurisdiction, content, currency, discipline, topic. Examples of attributes of documents are the concepts factual, general, technical, historical, retrospective, current, up-to-the-minute, all-you-ever-wanted-to-know, wonder, public, official. Subject-related attributes include geographical, biographical, statistical, geneaological, research, engineering, biology, art, music, ships, money, hazardous wastes, politics.

Similarly, the librarian mentally encodes institutional sources in terms of their scope, subject, content, jurisdiction. For example, some attributes of the institution of government are official, public, regulatory. Jurisdiction-related attributes include war, environmental pollution, natural catastrophes, major disasters, taxes, civil rights, gross national product, international trade.

BY SCOPE, JURISDICTION, CONTENT, CURRENCY
FACTUAL
GENERAL
TECHNICAL
HISTORICAL
CURRENT
UP-TO-THE-MINUTE
ALL-YOU-EVER-WANTED-TO-KNOW
WONDER
PUBLIC
OFFICIAL

BY DISCIPLINE (BROADER AND NARROWER TERMS)
SCIENCE
-ENGINEERING
--MECHANICAL
--INDUSTRIAL
--CIVIL
--ELECTRICAL
-PHYSICS
-CHEMISTRY
-BIOLOGY
SOCIAL SCIENCES
-PSYCHOLOGY

BY TOPIC
LOCAL EVENTS
COMMUNITY EVENTS
INTERNATIONAL EVENTS
PEOPLE
CELEBRATIES
SHIPS
BIRDS
MIDDLE EAST
CENTRAL AMERICA
FADS
DISASTERS
MECHANICAL DEVICES
CONSUMER ITEMS
ELECTRONICS INDUSTRY
SNOW
RAIN
SLOW LEARNERS
BEATNIKS
PUNKS
ENVIRONMENT
HAZARDOUS WASTE
PUBLIC AFFAIRS
MEDICINE
HEALTH CARE
SPIRITUALITY
POLITICS
SEX
MONEY

Fig. 3. Attributes of library materials, institutions, and professional groups encoded in the knowledge base

In practice, these attributes point to, or are mentally linked to classes of answer sources, such as directories, journals, encyclopedias, pamphlets, ready-reference sources (see Figure 4).

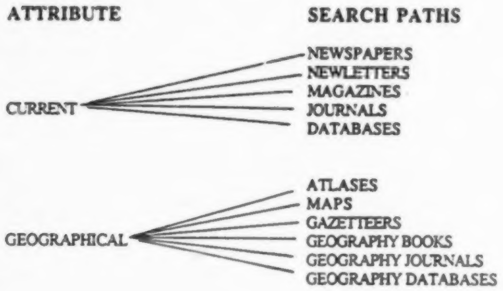

Fig. 4. How knowledge is encoded on the knowledge base: Attributes are linked to one or more search paths

How the Knowledge Base Is Put to Work in the Course of a Search

The search strategy begins with the client's question. The way in which the searcher conceives of the question determines the outcome of the search, because the classification of the question is the first step in bridging the gap between question and answer sources. The steps in developing the search strategy are as follows:

1. The searcher identifies terms and concepts embedded in the question and other parameters related to that client's specific needs, such as intellectual level, deadline, currency.

2. Next the searcher classifies some or all of these parameters in terms of the attributes of documents and institutions encoded in the searcher's two-part knowledge base. Because the attributes point to the search paths, they are the bridge between question and answer (see Figure 5).

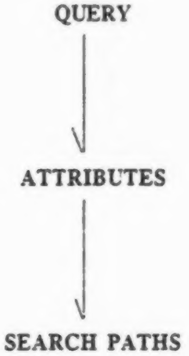

Fig. 5. Attributes bridge the gap between the question and the information environment

In classifying the question, the searcher can tap one or both parts of the knowledge base. If the question is classified in terms of the attributes of documents, then we can say that the searcher is "thinking bibliographically." When institutional knowledge is tapped, the librarian is "thinking pre-bibliographically."

Examples

Two examples illustrate how the model works. In the first example, the searcher uses only library knowledge. In the second example, the searcher uses both library and institutional knowledge.

Example 1. A patron asks, "Where can I go to see fireworks on the Fourth of July?" The searcher, thinking bibliographically, classifies the query as a request for dates of a local, current, popular community event. These concepts point to the search path "local newspaper," because the searcher has encoded the concept "newspapers" in these terms. Each attribute might lead to several other search paths, such as bulletin boards, but all lead to newspapers, so this is probably a reasonable choice (see Figure 6).

QUERY

"WHERE CAN I GO SEE FIREWORKS ON THE FOURTH OF JULY?

ATTRIBUTES

DATES
LOCAL EVENT
COMMUNITY EVENT
CURRENT EVENT
POPULAR EVENT

SEARCH PATHS

LOCAL NEWSPAPER
LIBRARY BULLETIN BOARD

Fig. 6. Example 1:
Thinking bibliographically

QUERY

"WHEN WAS THE FIRST USE OF LEADED GAS FOR AUTOMOBILES?

ATTRIBUTES

FACTUAL
DATES
FIRST-FACTS
HISTORICAL
AUTOMOBILES
FUEL (OR PETROLEUM OR GASOLINE OR PETROL)
ENGINES
INVENTIONS

SEARCH PATHS

(BIBLIOGRAPHIC)
•FIRST-FACTS READY REFERENCE BOOKS
•MONOGRAPHS ON THE SUBJECTS
•HISTORIES ON THE SUBJECT
•SPECIAL LIBRARIES

(PRE-BIBLIOGRAPHIC)
•PROFESSIONAL AND TRADE ASSOCIATIONS FOR AUTOMOBILES, FUEL
•ANTIQUE CAR CLUBS
•EDITORS OF TRADE MAGAZINES FOR AUTO AND FUEL INDUSTRIES

Fig. 7. Example 2:
Combining bibliographic and
pre-bibliographic thinking
in the course of a search

Example 2. A client, a member of a local antique car club, calls the science desk and asks, "When was leaded gas first used in automobiles?" The searcher classifies the query as a factual, "first facts"-type history question about the automobile or fuel industry, gasoline (synonyms petroleum or fuel), automobiles, engines, inventions. Thinking bibliographically, this leads to two search paths: monographs about histories of these various subjects, and "first facts"-type ready-reference books. When the answer fails to show up in the sources at hand, the searcher switches to pre-bibliographic thinking and asks herself, "Given these attributes, who in the world would know the answer to this question?" This critical mental probe leads to car and fuel manufacturers, trade associations, trade magazines, antique car clubs. On a hunch, the searcher contacts the American Petroleum Institute. The librarian there had the answer: The date was 1923, as reported in a history of Standard Oil (see Figure 7).

CONCLUSIONS

Effective reference librarians and online searchers use two types of knowledge in professional practice: library knowledge and institutional knowledge (see Figure 8).

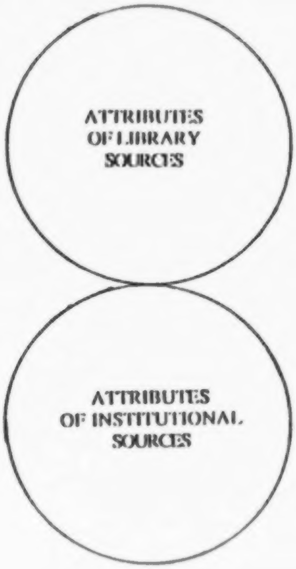

Fig. 8. The two-part knowledge base
of the professional searcher

Effective searchers mentally encode the attributes of library materials and institutions in terms of subject, currency, timeliness, intellectual level.

In determining one or more search paths, the searcher classifies the question in terms of the attributes of answer sources (see Figure 9). Because the attributes point to one or more search paths, such as directories, journals, government documents, ephemera, we can say that the attributes bridge the gap between the question and the answer.

During the course of a search, there can be an interplay between both parts of the knowledge base. The searcher can make the shift from thinking in terms of library sources to thinking in terms of institutional sources, by using an internal probe. An example of such a probe is "Who in the world would be involved

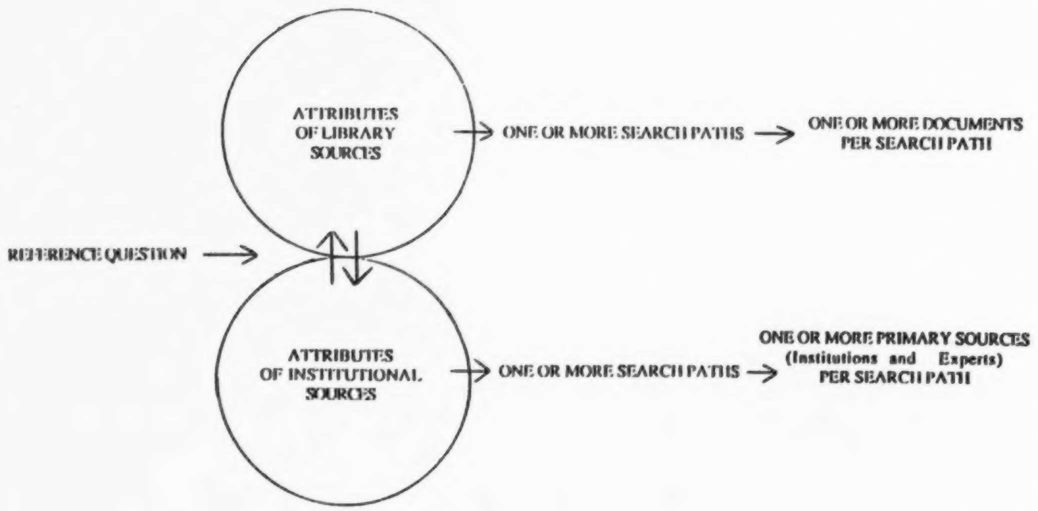
ATTRIBUTES OF LIBRARY SOURCES
ONE OR MORE SEARCH PATHS
ONE OR MORE DOCUMENTS PER SEARCH PATH
REFERENCE QUESTION
ATTRIBUTES OF INSTITUTIONAL SOURCES
ONE OR MORE SEARCH PATHS
ONE OR MORE PRIMARY SOURCES (Institutions and Experts) PER SEARCH PATH

Fig. 9. Putting the knowledge base to work

with a topic like this?" or "Who would tend to write about or publish information about this topic?"

In professional practice, the answer to this question would be "trade associations" or "gossip columnists" or "citizen groups." As suggested by the literature, library researchers and educators tend to neglect or misunderstand this broad scope of institutional knowledge.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. Further research to test the model using talking-out-loud protocol analysis.

2. Elaboration of the model. Several areas need to be explored. One is the development of a schema that articulates the scope of the institutional knowledge base and classifies each type of institutional source in terms of its scope, jurisdiction, and information flow. Kerezstesi's work on academia as an information-producing institution is useful in this regard.[9] A second research area is development of thesauri of attributes. Such work requires collaboration between practitioners and information scientists working in the areas of cognition and expert systems for reference assistance.

3. Design of experimental curricula for professional training and bibliographic instruction based on the model. Such a curriculum would recognize the full scope of the searcher's institutional knowledge base, its profound relationship to library knowledge, and the interplay between library and institutional knowledge in the course of a search. Up to now, teaching has narrowly focused on two institutions: academia and government, emphasizing scholarly information flow and the reporting and publishing requirements within the federal government.

ACKNOWLEDGEMENTS

Dr. Robin Crickman and Nancy J. Rohde, my graduate advisors at the University of Minnesota School of Library and Information Science, provided invaluable support during the original phase of this research leading to my masters thesis. In 1982, the thesis received the Best Student Paper Award from the American Society of Information Science (ASIS). I am indebted to Dr. Mary M. Huston for seeking out my work, and finding enough value in it to encourage me to return to the research after six years of professional practice. The title of this paper, "Thinking Like a Searcher," was borrowed with permission from Dr. Huston's doctoral dissertation.

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Program Presentations

Bibliographic Instruction

"Making Connections--In the Literature and With Your Users"

Automation has been the instrument of major changes in library information retrieval (IR) systems. Less slow to develop have been instructional approaches for enabling end-users to exploit this technology. The panel, moderated by Beth Sandore, University of Illinois at Urbana-Champaign, will address issues key to insuring that IR systems become as conceptually accessible as they are now technologically available to researchers.

To set the stage, a contextual introduction to trends in online IR access and end-user instruction will first be presented by Cerise Oberman, State University of New York at Plattsburgh.

The purpose of bibliographic inquiry--evidence--will then be discussed in terms of the topic shaping encouraged by the matching process of online retrieval. This retrieval outcome will be contrasted with the topic selection process inherent in original thought. The implications of this comparison for end-user instruction will be elaborated by Jon Lindgren, Wilkes College.

Lastly, because end-user instruction is most enabling when it is based on conceptual teaching models which engage individuals' existing mental models, two user-based conceptual teaching models will be presented. The network model (Mary M. Huston, Brainerd Community College) and the database model (Betsy Baker, Northwestern University) offer two frameworks for teaching prospective searchers about the dynamics of the scholarly knowledge generation process and the online information retrieval environment. Appropriate presentation of such conceptual frameworks can prepare end-users for the critical thinking requisite to successful scholarly inquiry and insure that they--and not the computer--control the search operations.

"Mirror, Mirror"...The Value of Videotaping in Improving Presentation Skills

In this program, videotaping as a training technique will be reviewed by librarians who have used it in three different situations. Effective use of videotaping is dependent upon using appropriate technology, developing a comfortable recording environment, allowing the presenter a sense of control, creating a means of non-threatening feedback, and providing an immediate opportunity to practice techniques needed for improvement. With respect to these considerations, one speaker will detail the development of videotaping programs used with graduate students in a library school user education course and with librarians being trained for bibliographic instruction responsibilities.

An in-house teacher training program in a health sciences library will be described, including needs assessment, objectives and evaluation, teaching methods and use of audiovisuals. Preparation of a videotaped mini-class session summarized the program and viewing the tape provided feedback to the teaching staff. Individual and departmental benefits will be covered.

In a reference staff-development workshop at a research library, videotaped feedback was used to improve teaching and communication styles. Reference librarians chose topics unrelated to their common knowledge-base of librarianship and prepared brief "how to" presentations for videotaping. Video clips of the presentations will illustrate behaviors that needed to be changed and positive elements of communication style.

Information packets of material useful in replicating these training sessions will be available. A selected bibliography of research on videotaping published in the education, training, communication, and business literature will be provided.

Speakers: Lizabeth A. Wilson, Head, University of Illinois Undergraduate Library, Urbana-Champaign; Phyllis Lansing, User Education Coordinator University of Maryland, Health Sciences Library, Baltimore; Betty Ronayne, Bibliographic Instruction Librarian Milton S. Eisenhower Library, Johns Hopkins University, Baltimore; Moderator: Maureen Lambert, Reference Librarian Milton S. Eisenhower Library, Johns Hopkins-University, Baltimore.

"Running Backward from the Finish Line: A New Concept for Bibliographic Instruction"

The program outlines a practical team-teaching approach designed to help students develop research strategies and interpretive skills in writing-across-the-curriculum courses. I give primary attention to a model article from the discipline, but, I also draw from scheme theory, composition theory, critical thinking principles, and other concepts to help students understand the significance in scholarly discourse of evidence, audience, and vocabulary. The model article from the discipline is broken down into three analytical levels: 1) organizational structure; 2) appropriated evidences; and 3) information sources or research strategy. Basic concepts in bibliographic instruction still apply in this approach, but the perspective for teaching changes, where, in effect, students are asked to look backward from the actual evidence located, rather than forward to imagined sources.

Speakers: Raymond G. McInnis, Western Washington University and reactor Cerise Oberman, State University of New York at Plattsburgh.

Collections and Services

"Automated Finding Aids for Special Collections: Item Level Access to the Treasures of the Library"

The expansion and improvement of paper finding aids through the development of automated indexes was discussed with specific examples given from the special collections database project at The Ohio State University. The rationale for automation, task definition and the choice of hard-and software were considered.

Speakers: Lucy Shelton Caswell, Nena Couch, Thomas Heck, Geoffrey Smith, Hannah Thomas (all from The Ohio State University Libraries.)

"Campus Library: Dissolving Distance For Dispersed Library and Information Services"

Many universities have established geographically dispersed campuses to deliver academic programs to additional populations. Libraries at these locations often operate as part of the university library's system. As more academic programs are extended to dispersed campuses, system relationships increasingly effect quality of service at each campus and the overall effectiveness of library and information service university-wide.

This program explored how common issues are addressed in a range of different campus library situations. Barbara Fischler, Indiana University-Purdue University at Indianapolis, spoke on collection development and articulation. Robert Moran, Indiana University Northwest, spoke on linking public services. Sara Whildin, The Pennsylvania State University Delaware County Campus, spoke on linking public services. Charles Townley, The Pennsylvania State University at Harrisburg, spoke on technical services and distributed processing.

"The Center for Research Libraries: Building on the First Forty Years."

The Midwest Inter-Library Center (MILC) was incorporated on March 4, 1949. Since 1949, the Center has worked toward its mission to expand scholars' access to research materials. However, changing issues in research libraries during the past forty years effected the evolution of MILC into the Center for Research Libraries, and the Center's programs continue to be responsive to the concerns of member libraries.

Three speakers discuss the Center's past, current and possible future roles as an organization that seeks to meet specific collection needs of research libraries. Donald B. Simpson, President of the Center, will speak on the founding and historical issues. John Rutledge and Luke Swindler of the University of North Carolina-Chapel Hill will speak on how a library can evaluate membership in the Center. Richard M. Dougherty, of the School of Information and Library Studies, University of Michigan, will speak on the cooperative collection development and preservation programs of the Center.

The speakers and titles of their presentations are as follows: Donald B. Simpson, "The Center for Research Libraries: The Challenge of the Issues;" John Rutledge and Luke Swindler, "Strategies and Methodologies for Evaluating Membership in the Center for Research Libraries;" Richard M. Dougherty, "The Center for Research Libraries as a Partner in Member Cooperative Collection Development and Preservation;" James Govan, University of North Carolina-Chapel Hill, is the moderator.

"Popular Culture in Academic Libraries: Resources for Research in the 21st Century"

Popular culture collections provide an increasingly important resource for scholars doing research in many disciplines. This program will describe four major academic library collections and examine the nature of popular culture materials and collections. Topics to be covered include research trends, collection areas, access to multi-format resources and preservation.

Speakers: Brenda McCallum, Bowling Green State University; Barbara B. Moran, University of North Carolina at Chapel Hill; Peter Berg, Michigan State University; Lucy Caswell, Ohio State University; Ed Dowling, Eastern New Mexico University.

"Providing Responsible Data Services"

Effectively integrating access to computer data files into primarily print-oriented collections remains a challenge for many libraries. There is no one configuration of services and collections that predominates in academic settings. Discussants explored political and policy issues within the library, institution, and federal government that affect the provision of data services. Practical problems of training ourselves, providing access to data, and distributing public data were highlighted.

Computer data files are an essential and often under-utilized information source. Integration of services for these computer files into existing library departments and into the activities of computer centers, academic departments, and research facilities are essential. Panelists demonstrated that libraries can and should provide some level of data services.

Speakers: Diane Geraci, State University of New York, Binghamton; Janie Harris, Cornell University; Jim Jacobs, University of California, San Diego.

"The Road Less Traveled: Two Libraries Find New Routes to Meet Traditional Needs"

Part 1: "Indiana University's Psychology Library Information Center: An Innovative Solution to an Emotional Problem." Speakers: Barbara Halporn, Indiana University; Charlotte Hess, Indiana University.

A complex problem between IU's Psychology Dept. and the Library was tackled through the implementation of an innovative satellite library service point. The Psychology Dept., because of its broad scope and reliance on other science disciplines, is particularly affected by dispersed research collections on campus. Over the years tensions ran high as faculty made complaints about inadequate access to library materials, chronic under funding in their area, and unfavorable comparisons with services provided in other universities. In 1986 a satellite library center was proposed to address some of their most pressing needs. This paper presents the issues and problems involved, services provided, evaluation, adjustments, future goals and overall success of what has become known as the Psychology Library Information Center (PLIC). Such a center and many of its motivating ideas could serve as a model for other libraries with similar academic research demands, space restrictions and financial restraints.

Part 2: "Arizona State University's Westward Expansion"

The University's westward expansion is described by speakers from the ASU West Campus, which was established in 1984. The Library departed from the traditional academic library route emphasizing acquisition, storage and preservation of information resources to explore the path of an information access emphasis. The result is a new academic library model operating in accordance with a new paradigm. In "Mapping the Route," Helen Gater describes the environmental conditions, constraints and opportunities and defines the characteristics of the library. Carol Hammond describes internal and external partnerships which have formed in "The Closer You Get, the Better They Look: New Partnerships." In "Buses and Terminals: Technology to the Rescue," Henry Harken describes how technology is interwoven with and supports the programs. Bee Gallegos addresses the effect on the role of librarians in "Traveling First Class: Enhanced Professionalism." Otis Baskin critiques the results in "Shortcut to Excellence: The Faculty Perspective."

"Serving the Information Needs of Off-campus Students: Old Questions, New Answers"

The appropriate scope of service provided to patrons has probably been debated as long as reference service has existed. As academic programs increasingly extend beyond the campus, the debate assumes new perspectives. A panel of librarians representing several models of service to off-campus programs will discuss the kinds of reference and document delivery services provided by their institutions, and explain the rationale on which the programs are based. To broaden the discussion, audience members will be encouraged to share contrasting programs and philosophies.

Speakers: Yuen-Ching Sin Fu, Mount Royal College (Calgary); Sister Margaret Ruddy, Cardinal Stritch College (Milwaukee); Susan Swords Steffen, Northwestern University (Chicago); and Monica Collier, Central Michigan University (Troy, Michigan); Virginia Witucke of Central Michigan University (Fairfax, Virginia) moderates. The Off-campus Library Services program at Central Michigan University sponsors this session.

"The Tightening Noose: Decreasing Access to U.S. Government Information"

In recent years public access to federal government information has been limited by changing formats, increasing the use of security classification, discontinuing publication, removing items from the depository system, increasing prices, and privatizing publications. The presentation will briefly investigate each of these restrictions and its implications for libraries. Moderator: Mary Prophet

"Women's Studies in Academic Libraries: Current Research and Implications for Service"

Susan E. Searing, Women's Studies Librarian, University of Wisconsin System, "The Information Seeking Behavior of Women's Studies Researchers;" Ellen Broidy, Coordinator of Library Education Services, University of California, Irvine; "Bibliographic Instruction in Women's Studies: New Twists on the Old Models;" Renee Biggs, Librarian, Center for Continuing Education of Women, University of Michigan; "Library Services for Nontraditional Women Students;" Joan Ariel, Women's Studies Librarian, University of California, Irvine, moderator.

Using the example of Women's Studies, these three papers chart the library profession's progress in responding to new subject fields and map the work yet to be done. Susan Searing reports on a survey funded by the Council on Library Resources, which examined information seeking strategies and attitudes toward libraries among Women's Studies researchers. Ellen

Broidy examines the particular challenges for instruction librarians working in a new, interdisciplinary, and politically charged field. Renee Biggs discusses the central role of library and information services in a research and counseling center for nontraditional women students.

College Libraries

"Choosing a Bibliographic Utility for Small and Medium Sized Academic Libraries"

Will discuss the general and specific principles that librarians should examine when choosing a bibliographic utility. All speakers have extensive hands-on experience with the system they will describe. Topics covered include: size, quality, and subject authority control; ILL, acquisition and serial control; OPAC; start-up and continuing costs. Speakers: Sherrie Schmidt, Texas A&M University; Paul Crumlish, Hobart and William Smith Colleges (will discuss OCLC); Serafina Porcari, State University of New York at Buffalo (will discuss RLIN, CLASS); June Thaden, Northwestern Michigan College (will discuss Marcive). Moderator: Leslie R. Morris, Niagara University. Presented by Angels on the Head of a Pin Productions, Inc.

"Library Support for the Sciences in Liberal Arts Colleges"

Questionnaires concerning library support for sciences were mailed to 136 colleges in October 1988. Ninety-seven responses were received by February 1989. The colleges were categorized into two groups: Group I institutions sustain a higher-level of productivity in training and research in science (as evidenced by measures of alumni success, including earned doctorates in the sciences, receipt of National Science Foundation Fellowships, and appearance among the 1,000 most-cited authors in scientific literature). Group II institutions are other private liberal arts colleges with student enrollments between 1000 and 3500. The survey revealed at least two differences between the two groups: Group I colleges are more likely to maintain branch libraries for the sciences and to employ professional science librarians. Survey findings regarding collection development and reference services were also highlighted. Group discussion included consideration of future projects that could facilitate communication among science librarians at liberal arts colleges.

Education

"Bridging the Gap Between Education and Practice"

The program summarizes formal, in-house, programs that academic libraries have implemented in the past to supplement the education of new library school graduates. Some of the best known of these programs will be described and the strengths and weaknesses assessed. The emphasis will be on the residency program operational at the University of Illinois at Chicago since 1980. Four speakers will evaluate the strengths and weaknesses of the UIC program, consider its adaptability to other institutions, and assess its contributions to the field in terms of recruitment and retention of academic librarians. Beverly P. Lynch will summarize and suggest that academic librarians develop a common understanding as to what a postgraduate residency (or internship) should be and that ACRL take the lead in forging that understanding.

Speakers: Eric Suess, Linda Kopecky, Elizabeth Townsend, Peggy Warren, Beverly P. Lynch, moderator.

"CE: It Brings Good Things to Life"

In the first segment of the program Nancy Washington presented the findings of a survey authored by Jin M. Choi, entitled *Continuing Education for Academic Librarians: A Survey*. Academic Librarians were surveyed as to their opinions on: what CE subject areas were needed; instructional methods preferred; job satisfaction; and what is most liked and disliked about the profession.

The second segment was a panel consisting of Sandy Donnelly, Maureen Sullivan, Ray Metz, and moderated by Janice Bradley. The panelists addressed: how CE courses are developed; what the personal rewards are from the presenter's perspective; and how CE courses have been successfully integrated into state library association conferences.

Fund-Raising and Support Groups

"Friends of Libraries for ACRL Libraries"

These representatives of successful Friends of Library groups will share how each group achieved its success, and what problems were confronted as it grew. The diverse background of each participant will enable various options to be discussed. Ample time will be left to assure the audience time for questions.

Speakers: Joan Hood, Director of Development and Public Affairs, University of Illinois-Urbana Libraries;

Lois Nisbet, Library Associates, Green Library, Stanford University; Robert Runyon, University Librarian, University of Nebraska, Omaha. Moderator: Sandy Dolnick, Executive Director, Friends of Libraries, U.S.A.

"Preserving the Past: Planning for Funds; Funding for Plans"

Presented by the National Endowment for the Humanities' Division of Research Programs, the session featured descriptions of two NEH-funded projects. Jane Rosenberg, NEH, chaired the session, which was designed to feature two important issues: what happens when a project is turned down, and how cooperative projects can be organized to successfully carry out the work. Peter Gottlieb, Labor Archives, Pennsylvania State University, discussed his application for support to arrange and describe the archives of the United Steelworkers of America. The first application for the project was not funded and it was necessary to re-assess the application in the light of evaluators' comments before a second--and ultimately successful--application could be prepared.

The second presentation was made by Tia Gozzi and Miriam Palm, Stanford University. They coordinated the successful multi-institutional application to NEH for funding for a major retrospective conversion project for Latin American materials. The project was especially timely since the Endowment has a Columbian Quincentenary initiative. However, organizing the ongoing work of many institutions posed major challenges in planning and administration.

International Librarianship

"The Changing Academic Environment for Internationalism and Area Studies: The Library Response"

Changes in the academic curriculum and a growing emphasis on international studies has meant that many courses now have an international component. The library response to these changes will be addressed in five broad topics: the interest of professional schools, especially business schools, in international topics; the revision of the undergraduate curriculum to include a third world or international studies requirement; the effect on small, liberal arts colleges of hiring faculty with international backgrounds; the transformation of graduate programs, as entering students no longer need basic language training but expect to undertake their graduate research using vernacular language sources; and the change in major fields of interest in international topics from those in the humanities to those in the social sciences.

Speakers: Chris Africa, University of Iowa Libraries; Barbara Ramusack, University of Cincinnati; Yvonne Wulff, University of Michigan Libraries; and Dona Straley, moderator, The Ohio State University Libraries.

"Life in a Chinese Academic Library: Past, Present, Future"

In this panel discussion, the speakers will compare and contrast the state librarianship in China to that of the U.S. and describe problems, strengths, and future plans. The panel consists of American librarians who have visited China either on an exchange program or who visited as a part of an invited delegation of librarians. The other speakers are Chinese librarians who will be commenting on the state of librarianship in China.

Speakers: Merea Rankin, University of Tennessee, Chattanooga, "Alien Yet Familiar: An American Librarian's Impression of Chinese Libraries;" Sister Anita Talar, Seton Hall University, "From the Inside Out: Exchange Librarian in China;" Hu Feng-Sheng, Shanghai Jiao Tong University, "Professional Organizations in China;" Sharmon H. Kenyon, Humboldt State University, program moderator.

"Promoting International Understanding Among Academic Librarians in the Second Century"

Throughout ACRL's first 100 years members have been involved in a variety of cooperative activities world-wide. Included among these activities were support and help for damaged and devastated libraries; participating in the International Federation of Library Associations (IFLA); initiating library education in various countries; sponsoring book exhibits abroad and library study for foreign librarians; donating library materials to developing countries and encouraging international librarian exchanges.

It is in this tradition that ACRL embarks upon its second century of international activities. At this time when information technologies facilitate international communication, cooperation with library colleagues throughout the world assumes a high level of importance and visibility.

This program on "promoting international understanding..." highlights several future possibilities regarding international exchanges of librarians and summarizes benefits from such activities.

Elmar Mittler, Director, University of Heidelberg Library, West Germany, presents an overview of a century of collaboration among university libraries in Germany using his library as a case study. Deborah Greene, Cleveland State University Library, provides comments based on her recent practicum experience at the University of Heidelberg Library.

Yasar Tonta, Hacetepe University, Ankara, Turkey, discusses automation activities in Turkish academic libraries. Isabel Stirling, University of Oregon Library, who has just completed a Library Fellow experience in Ankara, Turkey reacts to his comments.

Hannelore Rader, CSU Library gives introductory and final comments outlining an agenda for the future.

"Twentieth Century Librarians Travel to the Third World"

As American librarians travel to developing nations to share their professional expertise, they carry with them a wealth of knowledge gleamed from personal experiences in American libraries.

A panel of travellers will share their library experiences in China, Kenya, Costa Rica, and Belize. Their topics will include the accessibility of information, difficulties in utilizing indexes and abstracts, professional librarianship, computers, card catalogs, shelf lists, physical facilities, library instruction, cataloging and library consulting.

In most cases, each of the above-mentioned areas is handled differently from country to country, and the panel will share some insights into these differences and likenesses.

Because we hope to generate interest and enthusiasm for audience involvement in exchange programs, a librarian who works half-time in the international office of her university will share some ideas on exchange opportunities.

Chair, Peggy Wright, Western Kentucky University. Participants: Audra Alexander, Murray State University; John Griffin, Murray State University; Sara Penhale, Earlham College; Peggy Wright, Western Kentucky University; and Celia Walls, Murray State University.

Management Issues

"Applying the MBTI in the Academic Library: Positive Applications of "Type"

Developed by a mother-daughter team, Katherine Briggs and Isabel Myers, the MBTI (Myers-Briggs Type Indicator) describes personality styles and preferences with a four-dimensional profile. Each bi-polar dimension represents a personal preference:

-extraversion versus introversion, being oriented toward people and things or ideas and concepts

-sensing versus intuition, acquiring information through the five senses and reality or through a "sixth sense" and possibilities

-thinking versus feeling, focusing on logic and principles or human values and harmony

-judging versus perceiving, favoring structure and control or flexibility and spontaneity

Through an MBTI instrument, people are "typed" for each of these scales, with 16 different types possible. The type combination reveals preferred ways for acquiring information, making decisions and interacting with others. In organizations, the MBTI can be used to assess individual preferences and to promote appreciation for contrasting styles as well as for communicating, team-building, time management, and training.

Speakers: James F. Comes, Ball State University; Christine G. Hannon, Ball State University.

"Cooperative Library Storage - The California Experience"

The speakers explored policy, governance, and operational issues faced at the University of California in implementing shared, remote storage of library materials. George Soete (UC San Diego) moderated and introduced the concept of regional storage as implemented at the nine campus UC system. Gloria Stockton (UC Northern Regional Library Facility) described processing, relations with campuses, organizational structure, and operational issues. Alan Dyson (UC Santa Cruz) discussed issues of governance and politics, including how the original decision to use regional storage was made, and faculty involvement in decisions related to the operations of the two system wide facilities.

Elizabeth Kislitzin (UC Berkeley) described the history and current methods of selecting library materials for storage. John Tanno (UC Riverside) reviewed ownership issues from the perspective of a campus collection in a shared regional storage setting, especially where duplication has been prohibited by policy. Claire Bellanti (UC Southern Regional Library Facility) explored access issues including the effects of storage on users, alternatives to physical browsing, and services to users.

"Libraries in Support of Economic Development"

Library resources and systems can and in some places do play significant roles in supporting local and state economic development efforts. Presidents from a community college and a university and their campus librarians will discuss: (1) how the academic library/economic development linkage can be forged, (2) what the mutual advantages are to the campus and the region, and (3) what are the ingredients for success. Attention will also be given to strategies for initiating similar activities on other campuses. Online demonstrations will be available immediately preceding and following the program.

Speakers: Patricia Senn Breivik, Director, Auraria Library, University of Colorado at Denver; E. Gordon. Gee, President, University of Colorado; Joseph N.

Hankin, President, Westchester Community College; Roseanne Kalick, Chair Library Department, Westchester Community College.

"Learning from the Past to Plan for the Future: A Review of Planning Models"

Using a panel discussion format, the speakers addressed the practical issues and potential values of implementing a formal planning model in an academic library. Primary attention was given to strategic planning, considered to be the most appropriate model for periods of retrenchment and/or rapid change. Particular questions considered included: Why are academic libraries interested in strategic planning? Why prefer strategic planning over long-range planning or other model such as MBO? How has strategic planning been implemented in different types of libraries? Is planning worth the investment in staff time? What is typically the relationship between the library's planning efforts and those of the parent institution? How can one use a planning system to maximize windows of opportunity? How does one determine whether planning efforts are effective? What features should be included in the model which will succeed strategic planning? Following the panel discussion, members of the audience participated with questions and comments.

Spekers: Laverna Saunders, University of Nevada, Las Vegas; Arthur Miller, Lake Forest College; Patricia Senn Breivik, Auraria Library; Stanton Biddle, City University of New York.

"National Information Policy, Your Library. and Your Users: Information Access Issues and Actions"

This session will inform academic librarians about the need for national information policy and the opportunity that the White House Conference will have developing this policy. It will also focus on the significance of the report prepared by the Office of Technology Assessment, *Informing the Nation: Federal Information Dissemination in an Electronic Age*. It will also suggest ways academic librarians can support legislative action.

Speakers: Susan Martin, Executive Director, National Commission on Library and Information Science; Harold B. Shill, Head Librarian, Evansdale Library, West Virginia University; and Hiram L. Davis, Dean of University Libraries, New Mexico State University. Ruth J. Patrick, Dean of Library Services, University of Montana, is the moderator for this program which is sponsored by the ACRL Legislation Committee.

"Preparing for Automation: Retrospective Conversion and Staff Training"

Can seven regional campus libraries with limited budgets, differences in size of collection and clientele, and no computer equipment transform their bibliographic records into machine readable form? YES! It takes conviction based on knowledge and need, cooperation based on common goals and concerns, communication established through careful planning, and connections developed through patient nurturing. The seven Kent State University Regional Campus libraries cooperated in researching and writing a proposal to fund and implement their retrospective conversion project.

Is it possible to link a decentralized library system comprised of ten branch libraries with an integrated, automated system? YES! How? It takes involvement of staff; sensitivity to the impact of change, provision of a well-coordinated flow of information, and a carefully-designed training program.

The University of Kentucky libraries used a committee approach to both prepare for automation in the branch libraries, and to design a training program. This approach, because it actively involved branch librarians and staff, proved to be an effective mechanism to integrate automation into the routines of the libraries. The method facilitated a successful transition to online circulation for both staff and patrons.

"The Use of Management Retreats at the Departmental Level: Overview and Case Studies"

Management retreats are a valuable tool for fostering leadership, cohesiveness, and planning in an academic library. Such retreats are most often used at the top management level, involving library directors, administrators and department heads. This program demonstrates that retreats can also succeed at the departmental level, and can incorporate both librarians and support staff.

"Planning and Conducting the Retreat: an Overview;" Joan Giesecke, University of Nebraska-Lincoln; "The Planning Retreat: a Case Study," Virginia Moreland, Georgia State University; "The Task-Oriented Retreat: a Case Study," Deborah Masters, George Washington University; "The Problem-Solving Retreat: a Case Study," Pamela Cravey, Georgia State University.

Technical Services

"Approval Plans Budgets and the 1990's: Future Trends and Alternatives"

This session will focus on the crisis in library materials budgets with special attention to its effect on approval plans. The initial presentation reports the results of a recent survey of monographs/serials acquisitions activity in southeastern research libraries. An approval plan librarian will focus on the effects of these budget constraints on a specific library, giving examples of budget effects on book selection procedures. An administrator will focus on the effects of cooperative buying and limiting book selection purchases in relation to quantitative measures and standards used throughout the profession. A book vendor will speak on assistance available from the vendor to libraries during times of budget constraint.

Speakers: Nancy Gibbs, Approval Plan Librarian, Auburn University Libraries; Susan Nutter, Director, North Carolina State University Libraries; Doug Duchin, Vice President for Academic Approval Plans Blackwell North America, Inc. Moderator: Barbara Nelson, Firm Order Librarian, Auburn University Libraries.

"The Art of the Cataloger: Editions & Printings"

The difficulty of hiring first-rate catalogers has been made clear to the library community for the past few years, beginning with J.S. Hill's article "Wanted: Good catalogers," in the November 1985 issue of *American Libraries*. There is a fear that "too few may be learning that cataloging is an intellectual exercise worthy of their minds."

One way to illustrate the intellectual challenge, enjoyment, importance, and just plain fun of cataloging is to examine the decision-making process involved in determining the DATE using AACR2 rules. The medium of presentation is a slide program.

The topic is of importance to both experienced catalogers and to public service personnel, who must, after all, deal with the results. Patrons may be researching the editions of a given work, or they may need to know which of the library's editions corresponds to the one cited in a bibliography. The presentation also serves as a general example of audiovisual techniques applied to staff training.

Speaker: Barbara K. Gaeddert, University of Kansas Libraries.

"The Technical Services Librarian and Bibliographic Instruction"

This program focused on a number of aspects related to the participation of technical services librarians in bibliographic instruction. The viewpoints of both technical services librarians and a bibliographic instruction coordinator were represented. Two panelists described their experiences in teaching bibliographic instruction via subject oriented course lectures and library skills courses for credit. The bibliographic instruction coordinator described strategies she has used to encourage technical services involvement in bibliographic instruction in her library. Overall issues were also discussed including the unique qualities a technical services librarian can bring to bibliographic instruction as well as the positive and negative impacts that participation in this activity can have on the technical services librarian's career. Participants represented academic institutions of a wide variety of sizes, both public and private.

Speakers: Sue Kopp, Cheryl Blackwell, Catherine Roberts, Robin Buser, and R. Cecilia Knight. Moderator: Sandy Folsom

AUTHOR INDEX

Alberico, Ralph 316
Anderson, David G. 9
Anderson, Greg 113
Anderson, Nancy 116
Bailey, Martha J. 258
Balachandran, M. 116
Barringer, Sallie H. 188
Batt, Fred 3
Belastock, Tjalda 43
Bentley, Stella 192
Bingham, Karen Havill 51, 116
Blumenthal, Caroline 262
Bolin, Mary K. 265
Brown, Charlotte B. 288
Brunning, Dennis R. 6
Budd, John M. 46
Camp, John A. 9
Cann, Sharon 262
Chrzastowski, Tina E. 201
Clark, Barton M. 51, 116
Cochrane, Lynn Scott 55
Coons, Bill 141
Corey, Constance H. 63
Creaghe, Norma S. 205
Davis, Donald G., Jr. 66
Davis, Douglas A. 205
Davis, Sheryl Jean 295
DeVinney, Gemma 12
Easterbrook, David L. 244
Elder, Nancy I. 208
Elliott, Paula 144
Eyman, David H. 211
Follet, Robert 268
Ford, Barbara J. 319
Fortin, Maurice 268
Frisch, Paul A. 319
Galloway, Margaret E. 268
Germann, Malcolm P. 15
Gertz, Janet E. 288
Giesecke, Joan 71
Glaviano, Cliff 147
Gleim, David 119
Glogoff, Stuart 19
Griffin, Mary 151
Griffiths, Suzanne 116
Havener, W. Michael 323
Hendrickson, Kent 71
Henigman, Barbara 124
Higginbotham, Barbra Buckner 298
Hoffman, Ellen 272
Huston, Mary M. 337
Johnston, Christine 218
Jones, William G. 74
Josephine, Helen B. 6
Kathman, Michael D. 84
Kelly, Michael 15
Kenney, Anne R. 303
Lagana, Gretchen L. 307
Lynch, Beverly P. 37
McCandless, Patricia 87, 116
McCombs, Gillian M. 30
Mills, Carol 248
Mischo, William H. 328
Moran, Barbara B. 276
Moreland, Virginia 262
Mosby, Ann Page 9
Mouw, James R. 224
Murphy, Marcy 258
Nollen, Terrence 154
O'Brien, Nancy Patricia 227
O'Hanlon, Nancyanne 156
Olsen, Jan Kennedy 141
Ormondroyd, Joan 163
Parker, Linda 154
Pausch, Lois M. 166
Pfander, Jeanne L. 331
Popp, Mary Pagliero 166
Presley, Roger L. 128
Preston, Gregor A. 281
Reichel, Mary L. 12
Repp, Joan M. 250
Riggs, Donald E. 334
Roberts, Anne F. 34
Robison, Carolyn L. 128
Rogers, Sally A. 131
Rubens, Donna 337
Rumsey, Eric T. 135
Russell, Ralph 262
Sager, Harvey M. 6
Sartori, Eva 154
Schofer, Yvonne 310
Schreiner-Robles, Rebecca 15
Smith, Elizabeth 170
Soules, Aline 90
Spitzer, Alice 144
Strickler, Sally Ann 93
Tanis, Norman E. 205
Townley Charles T. 98
Treadwell, Jane B. 230
Tucker, John Mark 66
Varner, Carroll H. 235
Walch, David B. 103
Warmann, Carolyn 55
Weston, E. Paige 37
Whitson, Donna L. 107
Willett, Charles 238
Wilson, Lizabeth 116
Wyman, Andrea 178
Yu, Priscilla C. 253

SUBJECT INDEX

Academic librarians 66,262
Academic libraries 15, 98, 230, 235, 331
Academic libraries - biographies 66
Academic library administrators 276
Academic library buildings 74
Academic promotions 12
Academic rank 15
Academic status 15
Access 43, 147
Acquisitions 188, 211, 238
Advance organizers 170
African studies 244
Applications for positions 3
Approval plans 230
Architecture & building - programming & planning 74
Archivists 303
Artificial intelligence 334
Attitude 63
Automated access facilities 205
Automated library system 43
Automated workstations 131
Automation of library processes - book storage 205
Automation policies & principles 90
BRS after dark 331
Behaviorism 170
Biographic instruction 144, 151, 154, 158, 166, 170
Bibliographic utilities 147
Binding 298
Book reviews & reviewing 19, 238
Booksellers & publishers 238
Book use 119
Browsing 205
Budgets - library 188
CD-ROM 135, 151
Career development 272
Career progression patterns 276
Carnegie Foundation 37
Catalog users 147
Catalogers 131
Cataloging 51, 116, 147, 262
Cataloging backlogs 119
Cataloging display 119
Censorship 235, 238
Chemistry collections 218
Choice (Periodical) 238
Circulation 119, 208, 211
Circulation Studies 230
Classroom materials 227
Closed stacks 43
Cognitive learning 170, 178, 337
Cognitive style 178
Collection assessment 218
Collection development 208, 211, 235, 244, 250, 262, 288
Collection development - policy 253
Collection management 288
Collection - preservation 303
College & university libraries 230, 288
College & university libraries - book collections 238
College & university libraries - book selection 188
College & university libraries - history 66
College & university libraries - relations with faculty & curriculum 188
College & university libraries - space problems 205
Colorado Regional Library Service Systems 98
Communication 265
Competency models 258
Computer literacy 116
Computer-user interface 135
Computers 116
Concept maps 170
Conservation 298
Conservators 303
Cooperative activities 84
Cooperative research environment 9
Copy cataloging 113
Cost analyses 55
Cost effectiveness 201
Creative activity 9
Critical incidents 258
Critical thinking 151, 158
Cultural literacy 208
Curriculum collections 227
Curriculum planning & development 141
Curriculum reform 208
Database searching 328
Decision-making systems 71
Department heads 281
Deselection 224
Disaster personnel 295
Disaster preparedness 295
Disaster recovery 295
Document delivery 319
Dual job assignments 262
Education for librarianship 337
Educational history 227
Educational mission 235
Employment 265
End-user searching 154, 328, 331
English composition 208
Evaluation 201, 262
Evaluation methods 158
Evaluation - potential administrators 268
Evaluation - faculty 208
Evaluation of service 87
Events of instruction 170
Expert systems 316, 334, 337
Faculty relations 208
Faculty research 9
Faculty status 12, 15
Faxon LINX system 128
Fee-based services 6
Female library directors 276
Female patrons 116
Field theory 74
Financial stipends 281
Foreign language collection 253
Funding 46
Historical curriculum materials 227
Historical research - history of 66
Historians - library 66
Historigraphy 66
Holistic librarianship 51
IBM computers 135
Image 63
Information literacy 141, 166
Information technology 151
Information workstations 135
Institutional support 46
Instructional setting 178
Interactive planning 71
Interface software 328

Interlibrary loan 319
Interlibrary loan - costs 55
Interviews 3
Job satisfaction 262, 281
Joint appointment 262
Journal use 201, 208
Journals 19, 43
Knowledge base 334
Latin America 250
Learning outcomes 170
Learning styles 178
Letters of reference 3
Liberal arts colleges 211
Librarians 63, 303
Library/Computer center convergence 84
Library cooperation 98, 128
Library economics 46
Library expenditures 46
Library futures 166
Library instruction 6, 166, 178
Library of Congress 113
Library orientation tours 154
Library services 55
Macintosh computers 135
Management 258
Managers 63
Male library directors 276
Maps 262
MARC distribution service 113
Meaningful learning 170
Microcomputer 201
Microcomputer workstations 328
Microprocessor - 80386 135
Middle managers 258
Monographs 230
Multiple library networks 98
Mutual aid 295
National library of China 253
Netsch, Walter A., Jr. 74
Networking 295
Networks 98, 295
19th-century American literature 310
OCLC, Inc. 128
Obsolescence of books, periodicals 119, 205
Online public access catalogs (OPACs) 151
Online searching 37, 151
Online sources 323
Organizational change 71
Organizational development 98
Original cataloging 131
Paper 298
Pathfinders 316
Performance appraisal 87
Performance standards 319
Performance tests 158
Periodicals 19, 43
Periodical indexes 170
Periodical stacks 43
Personnel management 265
Planning 71
Plateaus, career 272
Policy setting 90
Position descriptions 3
Preservation 288, 298
Preservation planning 303
Preservation selection 288
Print sources 323
Problem solving 258
Productivity 334
Profession, library 63
Professional 63
Program evaluation 154
Project for automated library systems
    (PALS) 128
Propaganda & the library 238
Public access catalog 147
Public libraries 98
Public service 116
Racism 235
Racist materials 235
Ready reference 323
Records maintenance 113
Recruitment 3
Reference aids 316
Reference costs 55
Reference materials 116, 224, 262,
    323, 337
References 6, 37, 116, 224, 262, 323,
    337
Reference services - cost 37
Reference services - evaluation 323
Remote users 6
Reporting relationship 84
Research & publication 9
Research environment 9
Research librarians 37
Research libraries 131, 268
Research skills 158
Resumes 3
Rivalry 84
SALALM (Seminar on the Acquisition of
    Latin American Library Materials)
    250
Salaries 281
Seamless information interface 84
Search strategy 337
Serials 218
Sex discrimination in employment 276
Shelving - costs 55
Special collections 262, 310
Staff, classified 265
Staffing flexibility 262
Staffing levels 154
Staffing patterns 116
State University of New York 12
Storage costs 55
Strategic planninng 90
Student mentors 154
Survey 201
Task force programs 268
Teaching style 178
Technology 166
Tenure 15
Term paper clinics 154
Textbooks 227
Turnaround time 319
Undergraduate instruction 141
University of California 281
Use statistics 43
Use studies 208, 211, 230
User aids 316
User education 141, 144
User groups 128
User satisfaction 87
User surveys 87
Vendors 128
Weeding 224
Women & computers 116
Women writers - American
Women's studies